AMERICAN GAS ASSOCIATION MONTHLY

Dealer Cooperative Activities on the Pacific Coast

F. M. BANKS

Display Possibilities In Industrial Gas

J. A. MALONE

Governing Factors of Natural Gas Products

A. W. AMBROSE

Highest Pressure Steam Plant Uses Gas

J. B. NEALEY

James H. Jourdan Receives High Honor

Career of A. G. A. President Told in Word and Picture

December 1922

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AMERICAN GAS ASSOCIATION MONTHLY

VOLUME XIV | DECEMBER, 1932 | NUMBER 12

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The Association does not hold itself responsible for statements and opinions contained in papers and discussions appearing herein.

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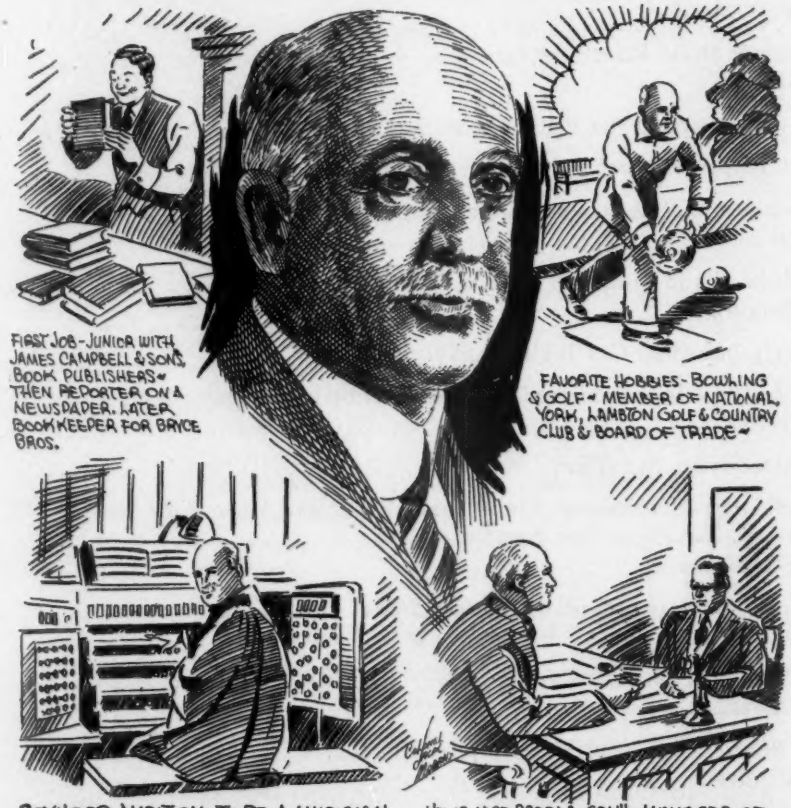
Career of A. G. A. President Told in Word and Picture


FIRST JOB - JUNIOR WITH JAMES CAMPBELL & SONS, BOOK PUBLISHERS ~ THEN REPORTER ON A NEWSPAPER. LATER BOOKKEEPER FOR BRYCE BROS.
FAVORITE HOBBIES - BOWLING & GOLF ~ MEMBER OF NATIONAL, YORK, LAMBTON GOLF & COUNTRY CLUB & BOARD OF TRADE ~
BOYHOOD AMBITION - TO BE A MUSICIAN. STARTED WITH PRESENT FIRM IN 1887 AS SEC'Y. TO GEN. MGR. ~ IN 1900 WAS PROMOTED TO CHIEF CLERK AND ACCOUNTANT ~ LATER MADE ASS'T. GEN. MGR. AND APPOINTED GEN. MGR IN 1909 ~ WAS MADE VICE. PRES. AND GENERAL MANAGER IN 1930 ~
HE IS VICE-PRES. & GEN'L MANAGER OF CONSUMER'S GAS CO. ~ HE IS PRES. AMERICAN GAS ASSOCIATION ~ CHAIRMAN OF TORONTO BRANCH OF VICTORIA ORDER OF NURSES ~
Arthur Hewitt

—Reprinted from The Globe, Toronto, Canada

AMERICAN GAS ASSOCIATION MONTHLY

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Volume XIV | December, 1932 | Number 12

The Brooklyn Union Gas Company Honors President Jourdan For Fifty Years' Service

ONE of the leaders of the gas industry, James H. Jourdan, president of The Brooklyn Union Gas Company, was honored at the eighth annual service emblem presentation dinner of the company, held November 10, at the Columbus Club, Brooklyn, N. Y.

Along with two other men, Michael F. Egan and James P. Lyons, Mr. Jourdan received a fifty-year service emblem. The presentation of the emblems was made by Vice-President Arthur F. Staniford, who last year completed fifty years of service with the company.

In behalf of the American Gas Association, messages of congratulation to Mr. Jourdan were sent by Arthur Hewitt, president, and Alexander Forward, managing director. Mr. Hewitt's message follows:

"On behalf of the Executive Board of the American Gas Association, I extend hearty congratulations on the occasion of the celebration of your fiftieth anniversary with The Brooklyn Union Gas Company. With every good wish,

Yours Sincerely,

(signed) Arthur Hewitt, President.

Two employees who have served longer than the three fifty-year veterans were also presented emblems designating their tenure of association with the company. They were Edward J. Byrne, who has completed sixty years of service, and Frank H. Averill, who has been with the company for fifty-five years.

Mr. Staniford presented service emblems to 144 employees who have completed at least twenty-five years of service. These emblems are awarded to employees completing 25, 30, 35, 40, 45, 50, 55 and 60 years of service.

Vice-President Clifford E. Paige delivered the address at the dinner. He paid tribute to Mr. Jourdan and the other employees who received recognitions, calling attention to the fact that 11% of the company's employees have served for twenty-five years or longer.

Mr. Paige related some of the outstanding achievements of employees in the various departments, showing the capability of the individuals as well as of the company. He also discussed the second Jourdan Employment Plan which operates tentatively from November 1, 1932, to May 1, 1933.

James H. Jourdan

The plan follows:

"Employees, where possible, will be put on a five-day week.

"Company will share burden of employees who go on five-day week. Six-day week employees who work five days will receive five and one-half days' pay.

"Company will make suitable cash contribution to Emergency Relief Fund.

(Continued on page 526)

Highest Pressure Steam Plant Uses Gas

By J. B. NEALEY

THE science of steam generation and the subsequent use of the steam in the generation of electricity is undergoing many changes, all of which converge at the common focal point of lowered cost of unit production. Not the least of these is the rapid expansion in the use of natural gas fuel under the boilers as against coal and oil. This trend becomes all the more significant when one takes into account the surprising progress made in the economic utilization of coal, whereby the same amount of coal was made to produce almost twice as much power in a single ten-year period.

For instance, coal consumption in central stations in 1919 amounted to 3.2 lbs. per kw.hr.; this was reduced to 1.84 lbs. in 1928 and to 1.65 lbs. in 1929 while less than a pound per kw.hr. is today's possibility. Yet, in the same period, the use of natural gas in steam-electrical generation increased approximately 160 per cent and is still increasing in spite of conditions.

Another factor of immense economic importance affecting the electrical industry is the recent development of a cheaper way of transmitting power. This is power in the form of gas and it is transmitted in pipe lines at about a third of the cost of transmitting an equivalent amount of energy in the form of electricity over high-tension wires. This alters the prophesies of super power plants at the coal mines with long high tension lines to centers of utilization to predictions of a large number of smaller electrical generating stations located at centers of consumption and fed by a long pipe line from a natural gas field. That long-distance transmission for natural gas is already an accomplished fact is evidenced by three lines each about 1000 miles in length that have already been laid. Recent discoveries of several major fields have given impetus to this movement.

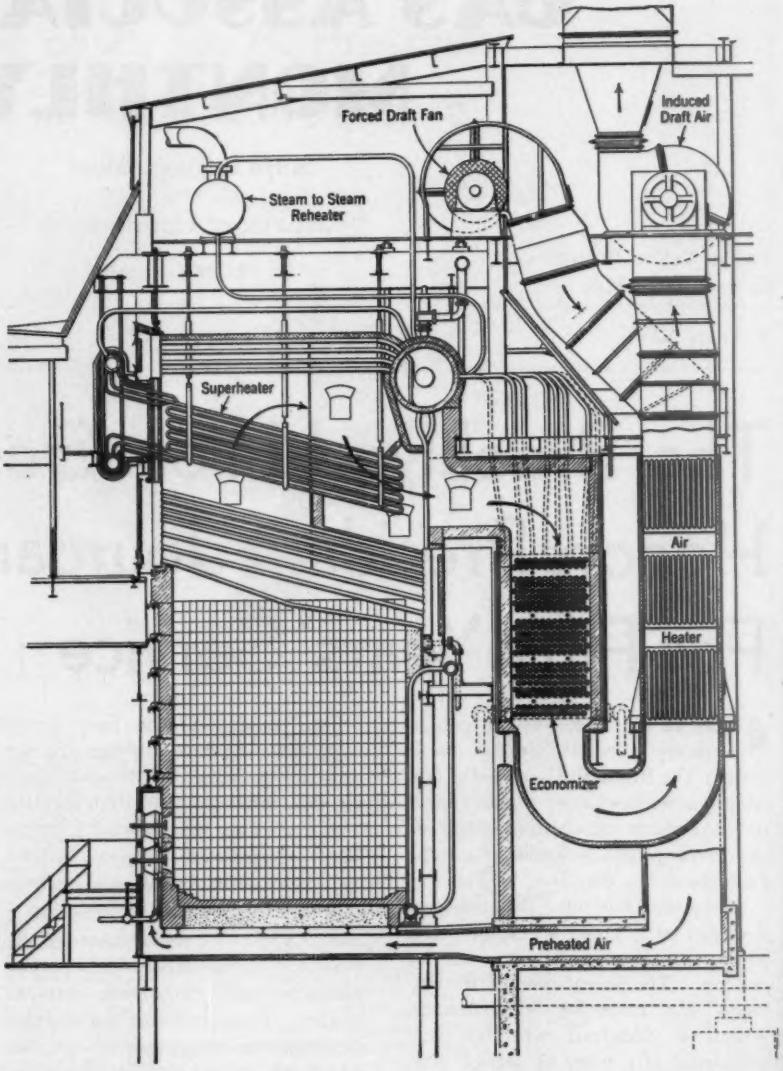


Diagram of the steam generating unit at Station "B." This 1450-lb. pressure generator includes a cross-drum boiler, high-pressure super-heater, steam-to-steam reheater, high-pressure economizer and plate-type air-heater.

A third trend of almost equal importance is the remarkable improvement in design of steam generating equipment. It was only about ten years ago (1921) that information on steam was limited to pressures of 200 lbs. per sq.in. or less, and it was not until 1924 that the first steam turbine operating at 600 lbs. was installed. This was followed in 1925 by a 1000-lb. steam turbine and in 1926 by one operating at 1200 lbs. pressure. Many have been built since to operate at 1200, 1300 and 1400 lbs.

A good example of these trends is apparent with the Public Service Company of San Antonio, Texas, which uses gas in all three of its plants and has recently installed one of the latest designed boilers in its Station B plant.

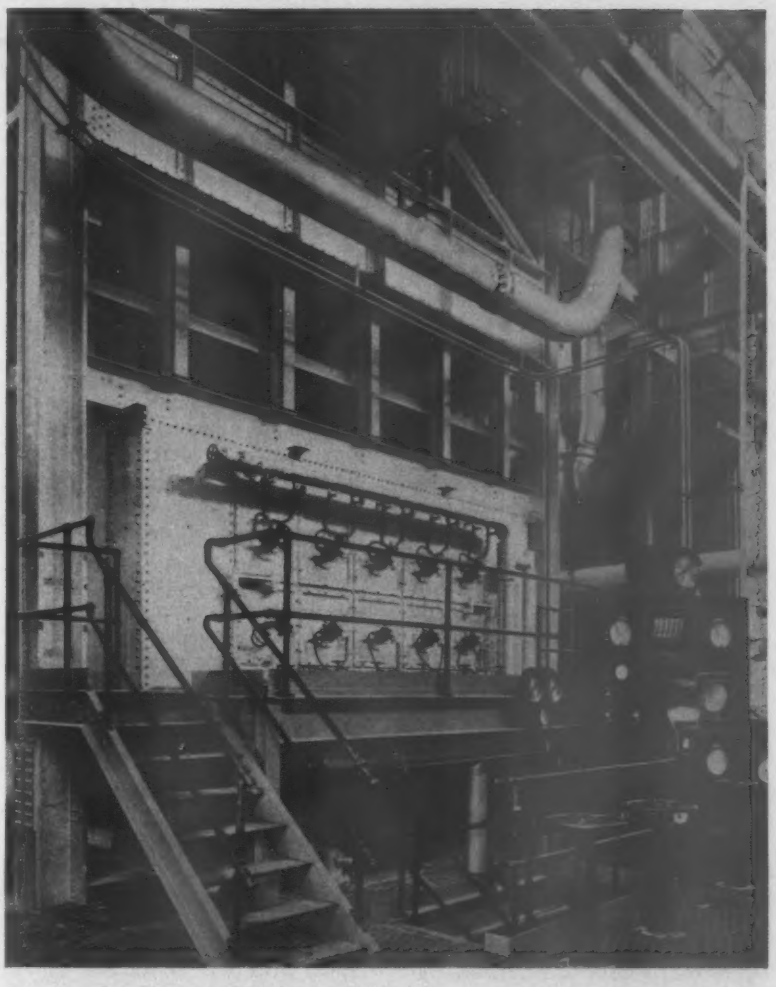
This boiler is equipped with a superheater, steam reheater, economizer and air preheater and will stand a pressure of 1450 lbs. with steam at 815° F. There is only one other boiler installation comparable with this one in the state of Texas and only a few in the United States. In fact, it stands today as the country's highest pressure turbine generating plant.

This concern serves the city of San Antonio and the surrounding territory with electricity and has three plants. Two of these, located in the city of San Antonio, are known as Stations "A" and "B," while the third, which is at New Braunfels, Texas, is called the Comal Plant. The steam supply at the Station "B" plant was maintained with 18 boilers, 16 Stirling and 2 Heine. They were divided into two sections, one being the low-pressure 150-lb. side and the other the high-pressure 200-lb. side.

On the low-pressure side the section consists of eight boilers with 100 per cent rating of 500 b.hp. each while on the high-pressure side are eight 200-lb. boilers with a rating of 500 b.hp. each and two Heine boilers of 1000 b.hp. each, a boiler horse power being based on a heating surface of 10 sq.ft. With the above boilers the plant had a rating of 10,000 b.hp. at 100 per cent, but the boilers carrying considerably more than this.

Recently the two Heine boilers were torn out and a high-pressure Foster Wheeler steam generating unit, with a Connelly boiler, of the cross drum, sectional header type, was installed. This boiler is directly connected to an 8000 kw. turbo generator to which it delivers steam at 1300 lbs. at the throttle, and the steam is exhausted from the turbine at 200 lbs. pressure. This exhaust steam is piped into a 12,000 kw. low-pressure turbine set. The maximum capacity is 215,000 lbs. of steam per hour.

Steam is raised with ten gas burners, arranged in two rows, and firing directly into the fire box, the hot products of combustion rising up through the boiler tubes, the economizer, the air preheater and out the stack. Forced and induced drafts, created by motor-driven fans and blowers, control the flow of heat, and, just before it passes out the stack, it is used in the preheater to heat fresh air for combustion at the burners.



Operating floor of Station "B" showing the highest steam generating unit in any American Central Station power plant. Note gas burners in front.

The air preheater is of the plate type and includes six interchangeable sections arranged in two parallel groups, the fresh air entering the two center sections at the center and leaving the bottom section at the outside ends. This unit will heat 192,500 lbs. of fresh air to 342° F. and in so doing reduces the temperature of the flue gas from 520° to approximately 350° F It has a heat exchange surface of 13,900 sq.ft. This fresh air is taken from the space over the boiler, forced by fan down through the air preheater and from then on down under the floor to the gas burners. This forced draft is damper controlled.

This steam generating unit includes, besides the boiler and air preheater, a convection type, high-pressure superheater, a steam to steam reheat superheater and an extended surface economizer and the furnace is equipped with water-cooled walls. The flue gases make a single pass through the boiler and two passes through the superheater, the latter being located between the main boiler tubes and the circulating tubes. They then pass through the tube economizer and air preheater. The superheater has a total surface of 4640 ft. and will superheat 196,000 lbs. of saturated steam to 810° F., the outlet pressure being 1362 lbs. The economizer has 11,800 sq.ft. of external heating surface and the flue gases entering at 1200° F. are cooled to 520° F. at the exit. It heats the feedwater from 371 to 539° F., the

(Continued on page 525)

Consumers Gas Company Has Paid Dividends for 84 Years

WHILE Consumers Gas common stock is not a market leader in the customary sense that there is from day to day heavy trading in its shares, its record of dividend payments for eighty-four years without a break has given it a very high place in the esteem of investment circles, according to *The Financial Post,* Toronto, Canada.

The Post continues as follows: "The fact that from time to time the company sells a block of its stock at a substantial premium in order to finance further its growing business of manufacturing and distributing gas in Toronto and surrounding municipalities also from time to time makes the stock of definite and immediate market interest as well.

"First and foremost, this company has a provincial franchise based on an agreement made with the city of Toronto. This agreement in a most admirable manner strikes a balance between community interests and rights of company shareholders. It was early recognized that from time to time the company would need new capital to serve its constituency, and so by a sliding rule it was provided that price of gas would be regulated to provide the company with sufficient money to pay 10 per cent on the par value of its stock, and that surpluses accumulated in a special reserve from time to time would be used to cut gas rates to consumers. The result has been very considerable and in some periods frequent cuts in rates while at the same time the company extended its business and found in normal times surplus capital eager to take up stock offerings whenever made.

Gas Sales Make Record

"Formerly the company sold stock by allotment of 'rights' to purchase the new shares in a definite proportion. Because of public campaigning against the issue of 'rights' in this manner, the company's right to do this was taken away, and since then it has been open to it to sell stock by tender or auction. Such an offering early this year was all subscribed, but the company accepted tenders for only two-thirds of the $1,250,000 offering, feeling that the lower offers in the demoralized state of the market were too low.

"The forthcoming annual statement will show that the company sold more gas in the year ended September 30, 1932, than at any time in its history. Because of price reductions dollar revenue will not be the highest, but it is understood that dividends will be covered. This is an excellent showing in view of the increased taxation which the company has encountered after making the latest price reduction.

"The company's constantly increasing capital stock outstanding is accompanied by a balancing increase in income, assets and dividends. In 1921 capital stock was $6,000,000 and at the end of 1931 $13,250,000, but net income also advanced in the period from $934,320 to $2,190,641, dividends from $581,338 to $1,325,000, property from $11,328,442 to $21,-116,732, working capital from a deficiency of $120,801 to $2,824,007, a striking advance in current financial strength. Reserves in the same period advanced from $3,819,654 to $10,-105,741 net tangible assets from $9,819,654 to $23,582,555. The number of meters installed in this ten-year period ran up from 127,555 to 170,830. Gas sales as measured in dollars fluctuated back and forth because of the policy whereby surpluses of one year are placed in a special reserve to be applied in reduction of gas rates. This failure of gas sales to show a dollar increase was somewhat balanced by an increasing revenue from the sale of residuals and is altogether made up for by the fact that if revenues of the company fail to be sufficient in any year for paying dividends at 10 per cent, rates may be advanced sufficiently to make up the difference.

"This stock sold in the depression year of 1921 at 150 high and 124¾ low and in 1932 to date at 175 high and 142 low, the latter low being shown in the time of utter demoralization of markets last Spring. Current yields have been around 5.7 per cent, which is around the level of good corporation bonds.

"The company's future at the moment looks bright in view of the fact that it has been able to expand its business in the worst depression of this century. There has been a decided trend in its territory towards the use of hydro-electric power for cooking, heating and lighting, but it has had no effect on the company's revenue so far as earnings on common stock are concerned. The trend toward power apparently does not close the door for the company. Uses for its gas and residual products are continually expanding in industry and new devices for more economical use in the home have also enabled it to hold its own there to an extraordinary extent.

Management Is Alive

"The use of and the need for gas have advanced considerably in the last ten years in various parts of the continent, and though much of the expansion is on the basis of cheap natural gas the artificial gas industry is anything but a blind alley for funds. Research and enterprise have been as active in that field as in others, and it is expected that gas and hydro-electric power will eventually establish pretty well the borders of influence beyond which encroachment by one on the preserve of the other ceases to be economical."

Dr. Heinrich Koppers Passes His Sixtieth Birthday

DR. HEINRICH KOPPERS, head of the well-known firm of coke oven builders, celebrated his sixtieth year on November 19, according to the *Gas Journal,* London, England. The *Journal* said:

"Throughout his career he has been associated with the coke oven industry, and enjoys the highest reputation both as engineer and man. His somewhat bluff, but genial, ways have won him many friends among the peoples of several continents, who now rally to wish him many years of health and prosperity. Few who have had the privilege of meeting Dr. Koppers have escaped the influence of the dynamic personality of the little man with the keen, but kindly eyes. His presence creates an atmosphere of briskness, whether it be in the office, or in his delightful town residence at Essen, or his beautiful chalet in the Bavarian Alps. It is only natural, however, that a man who has made his business his chief hobby should carry a business atmosphere with him wherever he goes. Like a Minister of State, he always keeps in touch with every department of his world-wide organization, and often directs even to the minutest detail the work undertaken by his firm, so that everything bears the stamp of his genius and thoroughness.

"In the early days of his career, Dr. Koppers struck out for himself. When associated with the late Hugo Stinnes, the famous coal owner and iron master, he demonstrated that by a suitable design of coke ovens, erected in 1899 at one of Stinnes' collieries, about half the gas produced by the carbonization of coal can be made available for other purposes than the heating of ovens. In pursuance of this idea, Dr. Koppers, who has established himself as a consultant, developed the regenerative coke oven with separate regenerators to each oven, and perfected the method of heating with both regard to the design of the heating flues and to the choice of fuel gas. The success attained by coke oven installations designed by him attracted the attention of the coking industry of America, which in 1906 sent a commission to Germany inviting Dr. Koppers to visit America, where he erected a number of coke oven batteries. Owing to the absence of suitable fireclay material, silica was used for the first time in the face of scepticism and prejudice of the entire technical world. The process results, in regard to both by-product yield and throughput, firmly established Dr. Koppers in America, who formed a company, from which the present Koppers Company of America originated.

"A few years before he had extended his activities to England, where a number of installations have been built, among which the latest plant at the Beckton Station of the Gas Light and Coke Company is considered among the most modern and perfect plants of its kind in the world. This installation is the foremost representative of combination ovens which Dr. Koppers has developed since 1911, in order to increase further the quantity of surplus gas. The improvement in the type of ovens and their appurtenances opened for them the way into the Gas Industry, where Dr. Koppers had already successfully introduced horizontal and continuous vertical chambers. As under gas-works conditions carbonizing plant must yield the maximum quantity of gas, heating with producer gas is essential. For this reason mechanical producers with water jackets were designed by Dr. Koppers, again embodying principles which were subsequently accepted generally.

"Apart from his activities in the sphere of carbonization, Dr. Koppers has been engaged in the development of by-product plant, and can take credit for certain advances in the design of the semi-direct recovery of the ammonia, benzole distillation, and certain systems of gas purification. His inventive genius did not confine itself to plant design, but found expression in research work of a fundamental character concerned with the combustibility of coke and the properties of refractories.

"The services thereby rendered to science and industry were recognized by the University of Aix-la-Chapelle, which conferred on him the Honorary Degree of Doctor of Engineering."

J. Paul Kuhn Heads Utilities Commissioners

J. PAUL KUHN, of Springfield, Ill., member of the Illinois Commerce Commission, was elected president of the National Association of Railroad and Utilities Commissioners at the forty-fourth annual convention held recently at Hot Springs, Ark. Other officers elected follow: Amos A. Betts, of Phoenix, Ariz., chairman of the Arizona Corporation Commission, first vice-president; Lester Hooker, of Richmond, Va., member of the Virginia State Corporation Commission, second vice-president; John E. Benton, of Washington, D. C., general solicitor; James B. Walker, of New York, secretary, and Clyde S. Bailey, of Washington, assistant solicitor and assistant secretary.

"Combustion" Proving A Useful Tool

The new A. G. A. book "Combustion" is proving to be a most useful tool to all of the gas industry and to steel, glass, oil and other manufacturing groups. Great interest centers around Equation 86 and its interpretation as a criterion of the effectiveness of certain gases as heating mediums. Any number of customer service men have been delighted with the three charts 40, 41 and 42 for the proper selection of orifice sizes for various appliances. Two dollars plus postage will bring it to you. Send your check to the American Gas Association, 420 Lexington Avenue, New York, N. Y.

Cumulative Index of Rate Structure Committee Reports—1921-1932

By Kurwin R. Boyes

Secretary, American Gas Association

THE value of any report issued by the Association is in direct proportion to the extent of its use. Frequently members overlook the fact that these reports may contain information which would help in the solution of a problem. With this in mind, the following cumulative index of the Rate Structure Committee reports has been prepared. It is hoped that all executives concerned with rate matters will keep this index readily available for reference. We are anxious to have these reports, as well as all others published by the Association, utilized to the maximum benefit of our members.

The Rate Structure Committee is composed of men who have devoted their lives to the highly specialized subject of rates. Their services are available to member companies of the Association. The committee can be consulted through the secretary on any rate problem with which a member company may be confronted. Inquiries will be treated confidentially, if desired, and will bring the different opinions of men trained and experienced in rate matters.

The Association also maintains a file of articles, data, etc., for the use of its members. The file on rates is extensive and contains much of value on all important phases of this important subject.

Especial attention is drawn to the Bibliography of Rates for Public Utilities (1815-1930) by O. E. Norman, published under separate cover as an appendix to the 1930 report. This is a monumental piece of work listing everything on rates that could be located. No rate man's library is complete without this Bibliography.

In making reference to bibliographies it should be mentioned that Headquarters has prepared a most comprehensive one on the therm, copies of which are available on request. Headquarters is also prepared to compile similar bibliographies, more or less as complete, on other phases of rate making, or, for that matter, on most any subject of interest to the gas industry. It is requested that reasonable time be allowed to do the work.

Again, the index below is presented for the purpose of calling attention to the comprehensive material on rates in the Rate Structure Committee report available to the members of the Association. The members are urged to avail themselves of this material which is invaluable in a consideration of the subject of gas rates:

1921 REPORT—J. D. Shattuck, Chairman. (Included in 1921 Commercial Section Proceedings. Out of print.)

- General Statement.
- Three Part Rates (Allocation of Accounts)—F. C. Freeman and F. C. Weber.
- Discussion.

1922 REPORT—J. D. Shattuck, Chairman. (Included in 1922 General Sessions Proceedings. Out of print.)

- General Statement.
- Discussion of Cost of Service and Structure of Rates.—Ewald Haase.
- A Short Cut Method for Cost Allocation in Determining Unit Costs for a Three Part Rate.—Douglass Burnett.
- Definitions of Terms and Theories of Allocation.—Compiled by T. V. Purcell.

1923 REPORT—T. V. Purcell, Chairman. (Available in 1923 Proceedings at $1.50 a copy.)

- General Statement.
- Cost of Service and Rates Based on Same.—Ewald Haase.
- Short Discussion on the Allocation of Costs.—G. I. Vincent.
- Court and Commission Decisions.—F. L. Daly.
- Tabulation of Types of Rates.
- Preparation of Rate Cases.—F. C. Hamilton.
- Bibliography of Rates (1876-1923)—O. E. Noman. (Replaced by Bibliography published in 1925 and supplement published in 1926.)

1924 No REPORT.

1925 REPORT—Ewald Haase, Chairman. (Available in 1925 Proceedings at $1.00 a copy.)

- General Statement—Selling a Proper Rate Stucture:
  - Alabama rate; On rate structure in general; Cost of service.
- A Study in Class Rates.—Ewald Haase.
- Rates for House Heating.—T. V. Purcell.
- Rates for Industrial Gas.—T. V. Purcell.

1926 REPORT—T. C. O'Hare, Chairman. (Available in separate pamphlet at $.10 a copy and in 1926 Proceedings at $3.00 a copy.)

- General Report:
  - Recommendations and conclusions; Accurate rate structures not so essential in early days; Dearth of good rates in the rate lists; Education of customers in rate matters; Necessity for introduction of better rate structures; Tremendous possibilities in the development of domestic load with proper rate structures; Effect of fixed charge in a rate; Some practical aspects of rate structure; Minimum charges; Optional rates.
- Rate Lesson—Principles of Rate Making for Gas Companies.—T. V. Purcell, Chairman. Available in separate pamphlet at 25 cents a copy.
- Development of Off Peak or Seasonal Rates.—Ewald Haase, Chairman. Practical Rate Making.—G. I. Vincent, Chairman.
- Optional Rates—Decisions of Georgia Commission.
- Bibliography (1876-1925)—O. E. Norman. (Published separately at $.20 a copy.)

1927 REPORT—Douglass Burnett, Chairman. (Available in separate pamphlet at $.10 a copy and in 1927 Proceedings. Out of print.)

- General Statement:
  - Rate situation; Organizing rate work in a company; Rate Changes; Consumption per customer and prospects for its increase; Classification of

rates, sales and revenue; Budgeting of income; Industrial gas rates; Water heating rates; Cost and pricing for valley business; Inducement forms of rates; Notes on costs methods; Charts useful in rate studies; Rate literature.

Production demand as an element in rate structure for certain industrial uses of gas.—Ewald Haase.

Bibliography (1876-1926)—O. E. Norman. (Published separately $.05 a copy.)

1928 REPORT—G. I. Vincent, Chairman.

(Available in separate pamphlet at $.15 a copy and also included in 1928 Proceedings at $1.00 a copy.)

General Statement:

Two broad divisions of the committee's work; Progress during year; Optional and class rates; House heating rates.

Special and Off-Peak Rates—T. V. Purcell.

Suburban and Rural Gas Rates—L. R. King, Chairman.

Proposed Definitions—R. H. Knowlton.

Classification of Sales and Revenue—C. S. Reed.

Practical Rate Making—A. G. King, Chairman.

1929 REPORT—L. R. King, Chairman.

(Available in separate pamphlet at $.15 a copy and also in 1929 Proceedings at $1.00 a copy.)

General Report:

Keep drilling; Optional rates; Class rates; Competitive rates; Priority rates; Progress; Gas rate articles; Recommendations.

Allocation of Customer Costs and General Expenses—R. H. Knowlton, Chairman.

Practical Rate Making—F. A. Newton, Chairman.

Suburban and Rural Gas Rates—C. G. Eichelberger, Chairman.

Practical Handling of Rate Cases—C. S. Reed, Chairman.

Competition with Butane and Other Fuels—Ewald Haase, Chairman.

1930 REPORT—T. V. Purcell, Chairman.

(Available in separate pamphlet at $.25 a copy and also included in 1930 Proceedings at $1.00 a copy.)

General Introduction:

Trend of Rate Structure; No "Iron Clad" Rule for Rate Making; The So-Called "Scientific Rate"; Formulas—Cost Finding—Rate Making; Review of Appendices.

Load Characteristics—Ewald Haase, Chairman.

Nomenclature and Definitions—R. H. Knowlton, Chairman.

Competitive Gas Rates—L. R. King, Chairman.

Practical Application of the Principles of Rate Making—G. I. Vincent, Chairman.

Presentation of Rate Cases—H. H. Agee, Chairman.

Court and Commission Decisions—Carl D. Jackson.

Bibliography of Rates for Public Utilities (1815-1930)—O. E. Norman. (The most complete bibliography on the subject available. Separate pamphlet 177 pages, price $1.00.)

1931 REPORT—F. A. Newton, Chairman.

(Available in separate pamphlet at $.40 a copy and also included in 1931 Proceedings at $3.00 a copy.)

General Introduction:

Thermal Gas Rates—A. I. Phillips, Chairman.

Industrial and Competitive Rates—E. L. Wilder, Chairman.

Presentation of Stand-By Charge Rates—T. C. O'Hare, Chairman.

Water Heating Rates—I. L. Craig, Chairman.

Rural and Suburban Gas Main Extensions—R. E. Ginna, Chairman.

1932 No REPORT.

One Way of Putting Across House Heating Message

Herewith is shown one of the holders of The Laclede Gas Light Company, St. Louis, Mo., illuminated as part of a house heating campaign. Three other large holders throughout the city have been treated in the same manner.

McCarter Medals Awarded

Patrick O'Brien Wearing his McCarter Medal

PATRICK O'BRIEN, superintendent of gas distribution, New Bedford Gas and Edison Light Company, New Bedford, Mass., was presented with a McCarter Medal October 14, in recognition of the saving of a human life on September 13, 1932. The victim was a woman eighty-five years of age who was rendered unconscious and apparently dead from gas poisoning.

Mr. O'Brien used the prone pressure method of resuscitation in reviving her, and worked for three-quarters of an hour before she breathed naturally.

The presentation of the medal was made in the presence of 200 members of the company's employees' organization by D. W. Beaman, vice-president and general manager of the company.

Preceding the presentation an address was made by Lewis E. MacBrayne, general manager, Massachusetts Safety Council, on the subject of "First Aid."

Cornelius Rigney

CORNELIUS RIGNEY, employed as a driver by the Public Service Electric and Gas Company, Passaic, N. J., has been awarded a McCarter Medal for saving the life of William Daniel, Passaic, who had been overcome by gas.

Mr. Rigney used the prone pressure method of resuscitation and after working for one and one-half hours was successful in reviving the victim.

The presentation of the medal was made before thirty employees of the company by John M. Orts, director of safety education.

Bernard McCoy

BERNARD McCOY, general foreman of the Paterson Gas shop, Public Service Electric and Gas Company, Paterson, N. J., was presented with a McCarter Medal on September 30, 1932, for resuscitating Joseph Nolan, Haledon, N. J., by the use of the prone pressure method. The presentation was made by John M. Orts, director of safety education of the Public Service Electric and Gas Company.

Mr. McCoy found Mr. Nolan in an unconscious condition from gas fumes and worked on him for one and one-quarter hours before he regained consciousness.

A. G. A. Course at Rutgers Grows in Importance

AN eloquent testimonial to the unique importance of the course in Manufacture, Distribution, and Utilization of Gas, offered by the home-study method by the University Extension Division of Rutgers University, New Brunswick, N. J., under the sponsorship of the American Gas Association, is the number of companies which have enrolled new students each year in this course. First brought out to fit what appeared to be a vacant place in the educational field of the gas industry, the Rutgers Gas course has amply demonstrated, with the start of its third year, that a thorough, substantial, comprehensive training in the essentials of the industry was a much-needed thing.

While students from more than half of the States and three foreign territories sought in large numbers the advantages of the course in the first year, it is now apparent that its value is permanently recognized. Companies which placed their employees in the hands of the university for training in the earlier years have indicated their acknowledgment of its importance by repeating their initial manifestation of interest, and are enrolling other members of their staffs for the same training. One outstanding case in point is the Public Service Electric and Gas Company in New Jersey, which found the course so valuable last year and the year before that it has been found advisable to organize another home-study group for instruction in this subject.

S. W. Girriel Joins U. G. I. as Sales Manager

STEWART W. GIRRIEL has been appointed merchandising sales manager of the Philadelphia Gas Works Company, Philadelphia, Pa.

He was educated at Milton Academy, Baltimore, Maryland, and at the University of Pennsylvania, from which he was graduated with B.A., B.S. and M.A. degrees.

Mr. Girriel spent several years as a teacher and later served a group of brass companies in the Naugatuck Valley, Connecticut, as industrial secretary. With this background he went into the sales field, first with the Sherwin Williams Paint Company as sales counselor and director of sales education and then with the Silent Automatic Corporation as director of the sales department.

He has lectured before many sales organizations, state, national and international trade groups as well as before colleges and civic organizations. In 1931, Mr. Girriel was selected as the annual lecturer for that year before the Babson Institute, Babson Park, Mass.

As a writer, Mr. Girriel contributed articles to trade journals and was associate editor of the *American Painter and Decorator* and has written many pamphlets for the benefit of salesmen.

H. M. Brundage, Jr., Joins Washington Gas Light Co.

HENRY M. BRUNDAGE, JR., has been appointed sales manager of the Washington Gas Light Company, Washington, D. C. He resigned his position as manager of the house heating and industrial division of the Westchester Lighting Co., Mount Vernon, N. Y., in October and assumed his new duties immediately.

After completing his education at Stevens Institute of Technology, Hoboken, N. J., Mr. Brundage for four years conducted a direct mail advertising and service organization in New York. For three years he was connected with the Socony Burner Corp., a subsidiary of the Standard Oil Co. of New York, promoting domestic oil burner sales. He had been with the Westchester Lighting Co. for five years.

Mr. Brundage served as a lieutenant in the coast artillery during the World War and is now a member of the Coast Artillery Officers Reserve Corps. He is the son of the first vice-president of the Consolidated Gas Company of New York.

Industrial Gas Section

E. L. WILDER, Chairman C. W. BERGHORN, Secretary F. B. JONES, Vice-Chairman

Display Possibilities in Industrial Gas

By J. A. Malone

Chairman, Committee on Display and Contact with National Industrial Organizations

DISPLAY work in connection with industrial gas sales has in the past been handled in large part as a prosaic detail. The usual display on the floor of the gas company has been a line of miscellaneous industrial equipment, the details and operation of which have to be explained to the occasional visitor who chances on such display.

There has been a feeling that this practice does not represent the best that can be done in connection with industrial gas. While this type of equipment does not lend itself to any sensational display, yet there are ways of featuring certain aspects so that a great deal more benefit can be derived from it than has been the case in the past.

There are three general classes of display—

1. Window displays in gas company windows.
2. Showroom displays in gas company buildings.
3. Displays at expositions.

All of these displays are, in general, indirect in their benefit. It is usually impossible to trace an actual sale back and determine definitely that it had its inception in any of the above three types of display. However, with a properly thought out display plan, the probability of sales benefit over a long period of time is sufficiently great to warrant reasonable expenditures.

Beside the effect on users or prospective users of industrial gas there is the factor of educating the gas company's own employees and also of impressing other classes of customers so that they will feel that gas is a modern and progressive fuel, used by many industries which they recognize as leaders. This indirect effect can not be appraised but it is certainly worth a great deal if the display work is logically planned.

The Consolidated Gas Company of New York has done some interesting work along these lines and has evolved a series of window displays under the general caption "Gas Fuel in Industry." The accompanying illustration shows the first of this series. This display was made in one of the main windows ordinarily devoted to domestic equipment and was not in the window area which is reserved exclusively for industrial equipment. The object of this placement was, as above indicated, to indirectly affect both gas company employees and domestic consumers who might actually never use industrial equipment themselves but who would, nevertheless, be favorably impressed by knowing that gas fuel was used in the manufacture of something that they know of and probably use.

In addition to this indirect angle it was, of course, assumed that certain industrial consumers would see such a window display. The manufacturer whose material was displayed was consulted in the planning of the window, was given photographs of the display and was notified of the dates of display with a date schedule of how this display would be rotated at the various showrooms of the gas company.

This tie-up with the industrial customer worked out very satisfactorily and was the subject of favorable comment from this manufacturer. The industrial customer was, of course, very much pleased that his material was displayed and felt that the gas company was giving some very valuable cooperation.

With reference to the selection of subjects for display it might be here stated that this particular window, while it was the first of the series, represented a variation from the general plan in that it showed the production of one particular manufacturer. The basic plan was to have the displays cover an industry, and show the products of a number of manufacturers using gas in that industry. In this case, however, the manufacturer was the only one in this line of business so that no exception could be taken along the lines of favoring one manufacturer against another.

There are several points in connection with the make-up of this display which are worthy of notice. The general background was made up to bring out the idea of industrial buildings. The usual smoke stacks or chimneys which would ordinarily be found in such a view are purposely omitted, the underlying idea being that, where gas is used in industry, the usual smoke stacks and chimneys are unnecessary. While many observers might not notice this detail, on the other hand if chimneys were shown someone might notice what would appear to be an inconsistency.

Striking Window Display Invites Attention of All

The caption "Gas Fuel in Industry" or a variation of this theme was intended to head all of the displays. The idea that gas is economical is brought out effectively by the indirect reference, "Gas is Found Economical in the Manufacture of 15¢ Durium Records." Anyone seeing this display will unconsciously get the idea that the cost of gas fuel can not be very high if the product can be sold at retail for 15¢.

In the lower right part of the display is the heading "Gas Fuel is Recommended for—

1. Uniformity of product.
2. Reduced unit cost.
3. Increased production."

This three-point advantage of gas was intended to be stressed by being used recurringly in later displays.

An important point in connection with the planning of these window displays is that the finished product was featured and tied up with the fact that gas was the fuel used. Another point was that some striking fact of interest to the observer was presented. This display informed him that the plant turned out 10,000 records per hour or 19,000,000 records per year. The average person is much more impressed by facts of this nature than he would be by being told that so many million cu.ft. of gas were being used in the production of these records.

Later articles will describe other industrial gas displays.

Gas Appliances Attract Attention at Toronto Exhibition

Consumers' Gas Company Display at Toronto Bread and Cake Show

THE Bread and Cake Bakers' Association of Canada held its September, 1932, convention at the Royal York Hotel, Toronto, where 254 bakers and 155 allied tradesmen registered.

The hotel provided a suitable room where the exhibitors, thirty in number, arranged their displays. Nearly all of these displays were of food products; the Consumers' Gas Company appliances therefore stood out all the more prominently.

The space available to each exhibitor being small, it was decided to limit the gas appliances to gas-fired steam boilers and portable ovens, the latter being shown both with and without thermostatic control.

The gas appliances were shown against a background of black relieved by red trim and mounted on the rear top rail of the stand were heavy "cut-outs" representing gas flames and bearing the captions, "The Heat Behind the Loaf," "Perfectly Controlled Heat" and "The Immaculate Fuel." Each appliance was furnished with a descriptive ticket and enlarged photographs of actual installations of these and other appliances, such as travelling ovens, were prominently shown.

The Company's own publication "Gas in Industry" was freely distributed.

The booth was in charge of C. T. Bennett, the company's bakery representative.

"Brooklyn's Best Bakers Use Gas"

"BROOKLYN'S Best Bakers Use Gas" was the motto of The Brooklyn Union Gas Company, Brooklyn, N. Y., in a window display at a department store which celebrated "Brooklyn Day" in October, with displays in its show windows of various Brooklyn industries. The displays were in the windows for four days.

The display backboard of The Brooklyn Union Gas Company exhibit consisted of a main panel with two wings. On these wings were painted various types of cakes and pies. Into the main panel was set the front of a Universal Revelation gas oven. Above this oven, spreading across the top of the panel, was the motto: "Brooklyn's Best Bakers Use Gas."

On each side of the oven a window was depicted in the panel, illustrating the light and cleanliness of bakeries. One side was shown as the mixing room and the other as the wrapping room of a bakery.

This display was further developed through men going through the work of baking and icing cakes. The dough in pans came out through a chute on the left side. A man took the pans of dough and placed them in the oven.

Then following the passage of a suitable time for baking he opened the oven door and took out pans in which were baked cakes. These were then sent through a chute in the right side of the panel, illustrating the passing to the wrapping room.

In addition to this a chef demonstrated cake icing in the window, setting icing on cakes which were sold in the store. There was also a display of cakes in the window together with a sign listing some of the Brooklyn bakers who use gas.

R. C. Hohl Receives Military Award

RAYMOND C. HOHL, assistant superintendent of gas operations, Penn Central Light and Power Company, Altoona, Pa., was presented with award of the "Purple Heart," on October 8, 1932, for Military Merit and wounds received October 4, 1918, during the Meuse-Argonne Offensive which started September 26, 1918.

He enlisted July 27, 1917, at Philadelphia, Pa., and was a member of Company E. 103rd Engineers, and served with this company until the end of the War, being discharged at Camp Dix, N. J., May 16, 1919. He enlisted as a private and during his service in France was advanced and served in the various grades of non-commissioned officers, being a sergeant 1st Class of Engineers and platoon leader during major engagements. He advanced to the grade of Lieutenant at the time of the Armistice.

Supplementary Industrial Gas Bibliography

Important new articles on the use of heat in industrial work are reported in the magazines listed below:

GENERAL DATA—A

Wearing-in Motors A-XIII

Industrial Gas..An ideal automotive testing fuel-gas .....July 1932 p. 7
(Mfd. gas vs. butane.)

Miscellaneous A-XIV

American Gas Jl. .....Horsepower required to compress natural gas.....Aug. 1932 p. 17
(Tests on 160 and 760 hp. gas engine compressors.)

Gas Age-Record..Gas switch heaters prove success in Massachusetts snowstorm .....Mar. 5, 1932 p. 289

Gas Age-Record..Natural gas engines and the industrial field.....Aug. 13, 1932 p. 155
(Water pumped for irrigation purposes and for city water supply. Power furnished in laundries, dairies, etc.)

Industrial Gas..Immersion heating with gas units .....June 1932 p. 11
(Useful information on the design and installation of submerged coils in liquid heating tanks.)

Institution of Gas Engrs. Communication No. 48..The use of gas as a fuel in industry .....June 1932
(Gas consumption on large scale industrial heating operations. Compressed mfd. gas for petrol engines.)

Power .....Gas power supplements hydro in pumped storage plant...Aug. 1932 p. 76
(During off peak periods gas engine generators supply power for pumping water into reservoir. At peak load gas engine and hydro plants operate together.)

HEAT TREATMENT OF FERROUS METALS—B

Forging B-I

Heat Treating & Forging...Forging costs reduced by use of modern furnaces.....May 1932 p. 315
June 1932 p. 373
(Continuous vs. batch type furnace. Natural gas and oil costs.)

Heat Treating & Forging...An efficient forge furnace....June 1932 p. 371
(Proper control of temperature and atmosphere produce a better product at lower overall cost. Mfd. gas.)

Steel .....Diffusion combustion heating reduces scaling loss of steel.Sept. 5, 1932 p. 25
(Gas blanket produces the scale-free work required in modern press forging practice.)

Hardening B-II

Heat Treating & Forging...Hardening and tempering razor blades.....May 1932 p. 303
(Strip steel heated in gas atmosphere. Drawing in heated dies. Annealing center of blades in fish tail flames.)

Malleableizing B-VIII

Gas Age-Record..Metallurgy of malleableizing. July 23, 1932 p. 84
(Experimental study of gas application to the "short cycle" anneal.)

HEAT TREATMENT OF NON-FERROUS METALS—C

Copper C-I

Iron Age.....Special furnace bright anneals copper wire in steam atmosphere .....July 28, 1932 p. 143
(Wire uniformly annealed, clean, dry, and free from discoloration. Mixed nat. and mfd. gas.) gas.)

Brass C-II

Industrial Gas..Adopting modern heat in the brass industry.....July 1932 p. 16
(Results obtained in bright annealing. 530 B.t.u. gas.)

Gas Age-Record..Using gas in the brass industry .....May 14, 1932 p. 601
(Results obtained in bright annealing. 530 B.t.u. gas.)

METAL MELTING—D

Galvanizing D-III

Gas Age-Record..A modern large capacity galvanizing plant.....May 21, 1932 p. 627
(Natural gas burned with preheated air. Special design of temperature control equipment.)

Industrial Gas..A modern large capacity galvanizing plant.....July 1932 p. 13
(Natural gas burned with preheated air. Special design of temperature control equipment.)

Soft Metals D-XI

Gas World (London) ...Experiments with town gas in a modern tinplate works...Sup. May 21, 1932 p. 11
(Problems of burner application solved. Overall costs favorable to gas over coal.)

INDUSTRIAL STEAM APPLICATIONS—E

Amer. Gas Jl. . . Sugar refinery effects substantial savings by installing gas burners . . . . . Aug. 1932 p. 23
(Natural gas displaces oil for steam boilers; 6150 cu.ft. 960 B.t.u. gas equal 1 bbl. oil.)

Gas Age-Record. . Combustion control of gas converted boilers . . . . . June 25, 1932 p. 773
(The application and relative merits of fourteen types of draft and pressure control systems for large power plant boilers.)

Gas Age-Record. . Natural gas as fuel in a large power plant . . . . . July 2, 1932 p. 11
(Performance curve. Drafts required at various ratings. Condensation problems overcome by insulating flues.)

FOOD PRODUCTS—G

Miscellaneous G-VI

Ind. & Eng. Chem. . . . . Changes in fats during frying. July 1932 p. 811
(Objectionable quality of used fat due to free acid formed. Not heat alone but the reaction with water at high temperatures causes acid formation.)

Industrial Gas. . Immersion heating applied to deep fat frying. . . . . Sept. 1932 p. 17
(Tests on doughnut frying. Superior product obtained due to better temperature control. Mfd. gas.)

LOW TEMPERATURE BAKING AND DRYING—I

Core Baking I-I

Amer. Gas Jl. . . Industrial furnaces for gas-ovens for core baking. . . . . June 1932 p. 27
(Results obtained in batch and continuous ovens.)

Miscellaneous I-V

Western Gas. . . Automatic dryer fired by natural gas serves the modern cotton gin . . . . . Feb. 1932 p. 22

CERAMICS—J

Glass J-I

Amer. Ceramic Soc. Jl. . . . . Electric annealing of glass. . . Aug. 1932 p. 424
(Heat requirements based on actual determination.)

Amer. Ceramic Soc. Jl. . . . . Diffusion combustion and its application to glass melting. Sept. 1932 p. 501
(More uniform heat distribution and lower temperature gradients are possible with diffusion flame.)

Gas Heat Sales Visualizer Published Cooperatively by Four Companies

By W. L. JONES

Sales Manager, The St. Louis County Gas Company

AN unusual sales visualizer has been published cooperatively by four companies interested in the sale of gas or appliances for domestic heating. These companies are The Laclede Gas Light Company, St. Louis; The St. Louis County Gas Company, Webster Groves, Missouri; Surface Combustion Corporation, Toledo; and Mississippi River Fuel Corporation, St. Louis. The purpose of the book is to solve one of the most difficult problems in the sale of gas heating, by putting the sales canvass at the outset on a more favorable basis than usually is possible.

When the gas heating salesman endeavors to interest a new prospect, he almost invariably meets with mental obstacles so great that it is only by extreme cleverness or extreme persistence that the salesman is able to have his proposition given a fair hearing. That obstacle of course is price, or rather the prospect's unreasonable conception of what the price probably is. The average prospect meets the salesman's suggestion of gas heat with the remark, "Sure, that would be fine, but I'm no millionaire." And until the salesman can make the prospect realize that gas heating is not a superluxury, as far beyond the means of the average family as an ocean yacht or a castle in Europe, he finds it impossible to proceed with his canvass.

Of course every salesman knows the answering arguments, but the difficulty is to get a chance to use them. If you can't get even a thin wedge into a closed mind, you have no way to open it to a consideration of the facts.

A sales promotional organization of St. Louis proposed a new sales approach, or perhaps it would be truer to say a new method of visualizing the standard approach was employed to develop the idea.

In the sales visualizer as finally developed, there is first a frank and emphatic bit of negative selling. The prospect must be made *thoroughly dissatisfied* with his old-fashioned heating before he will open his mind to modern automatic gas heating. The visualizer therefore points out and illustrates most graphically the many hidden costs of old-style heat which causes excessive dirt and work and adds enormously to the burdens of housekeeping. Gas heating is pictured as the greatest labor-saver that it is possible to put in the home. Finally, the dirt-*saving* and work-*saving* advantages of automatic gas heat are brought out in convincing detail, with special emphasis on those advantages possessed by gas heat as contrasted with other forms of automatic heat.

The fact that four companies have joined in underwriting the research, writing, designing and publishing costs of the book would indicate that they feel an unusual solution has been found to a difficult sales problem. Indeed, an official of one of the companies has gone so far as to express his opinion that this visualizer is "one of the outstanding contributions to the commercial side of the gas industry."

The book contains 68 pages, 8½ x 11 inches, printed in a striking color combination with typographical arrangement assembled in loose leaf form and mounted in a stiff board ring binder of special construction. This permits the book to be used effectively in three positions—flat on the desk like any loose leaf binder, upright like a "triangle" display, or held in the hand by an extension at the back.

Each of the four companies has subscribed for a sufficient quantity of books to supply its own sales force, and, as it is recognized that promotional material of this kind is needed by many others in the industry, the underwriting companies have had additional copies of the visualizer printed and are making these available to other utilities and manufacturers.

Marcus B. Webber

MARCUS BERNHARD WEBBER, assistant manager, New England District, New England Power Association, died suddenly November 19. Mr. Webber was well-known to the gas industry of New England and was regarded as one of its leaders. He was a former president of the New England Gas Association. The funeral took place at his home in Bedford, Mass.

Accounting Section

J. M. ROBERTS, Chairman H. W. HARTMAN, Secretary E. B. NUTT, Vice-Chairman

Office Equipment Committee Ends Active Year

THE Mechanical Office Equipment Committee of the Accounting Section, under the direction of Herbert A. Ehrmann, of the Midland United Company of Chicago, Illinois, completed an ambitious and constructive program during the Association year ending with the October Convention in Atlantic City. The committee prepared four reports during the year, as follows:

(a) A summary of the present status of mechanical office equipment, as it affects our industry;

(b) A review of modern accounts payable procedures;

(c) A collection of short cuts to efficiencies and economies, entitled "Wrinkles";

(d) A description of distribution and photo-strip accounting.

The report summarizing the status of mechanical office equipment is divided into three sections. The first section contains a brief report of the important developments made by the major accounting machine companies during the year.

The second section of this report summarizes in chart form the comparative features of the accounting machines most commonly used. The purpose of these charts is to familiarize the executive with the various features of the major types of mechanical office equipment at his disposal. The characteristics of each type of machine are arranged in such manner that the machines of various manufacturers can be compared. The chart describing bookkeeping machines, for example, shows for ten leading makes of machines such comparative features as the keyboard, paper feed, visibility of writing, registers, tabulation, proof of clearance, and other important items.

The third section of this report is a directory of mechanical office equipment and manufacturers. The first part of the directory lists the various types of mechanical office equipment, with a brief definition of each. If, for example, the reader is desirous of purchasing a certain type of calculating machine, or dating stamp, or any other kind of office equipment he can determine from the directory which manufacturing companies can supply it to him. The second part of the directory is an alphabetical list of manufacturers which undoubtedly will prove a most useful reference to any prospective purchaser of equipment.

The committee report on Accounts Payable Procedures summarizes the practices, in chart form, of nine representative utilities. The basic forms used by each company are illustrated. The explanatory text contains a detailed description of the voucher system, and a summary of the advantages and disadvantages of both the one-time voucher and the built-up voucher.

The committee report entitled "Wrinkles" is a collection of approximately fifty short cuts and innovations which have resulted in improved quality of work and savings of time and labor. There is nothing theoretical about these "Wrinkles." Each one described is in use by a utility company. Practically every phase of accounting is covered, including customers' billing and bookkeeping, accounts payable, stores and payroll accounting, form design, and a host of miscellaneous office efficiencies which can be applied to numerous departments. Many of the features in this report can be universally applied. This collection of "Wrinkles" represents an open book on the efficient practices of our leading utility companies.

The report on distribution and photo-strip methods sets forth a new departure in the field of distribution accounting. The method described is a simple procedure for sorting, summarizing, and accumulating a large number of different items to a smaller number of accounts or groups. This is done by using properly designed forms in such manner as to enable the compilation of final figures from original records with a minimum of recording and intermediate adding. This procedure can be applied to payroll and stores accounting, customer analysis, expense accounting, or any other activity which involves the sorting and summarization of like items.

These four reports described above will prove of material assistance to every accounting executive and office manager who is interested in effecting efficiencies and economies. They contain practical data that is not obtainable from any other source. American Gas Association Headquarters will welcome the opportunity of sending copies of these reports to those who are interested.

Section Organizes

ON November 10 and 11, there were held at Association Headquarters meetings of the Managing and Advisory Committees, and Committee Chairmen for the purpose of organizing the Accounting Section activities for the year.

J. M. Roberts, chairman of the section, submitted a complete outline of proposed committee organization which contained:

1. A statement of the scope of each committee proposed.

2. A listing of the subjects suggested for each committee.

3. A listing of committee personnel suggested for consideration by individual committee chairmen.

4. A list of matters to be considered with regard to Convention sessions and reports.

The following appointments of committee chairmen were announced:

Customers' Relations Committee: H. A. Ehrmann, assistant comptroller, Midland United Co., Chicago, Ill.

Customers' Accounting Committee: H. B. Bearden, commercial manager, The Laclede Gas Light Co., St. Louis, Mo.

General Accounting Committee: M. F. Reeder, comptroller, The Peoples Gas Light & Coke Co., Chicago, Ill.

Accounting Machines Committee: C. E. Eble, manager, accounting department, Consolidated Gas Company of New York, New York, N. Y.

Office Management Committee: H. E. Cliff, assistant to auditor, Public Service Electric & Gas Co., Newark, N. J.

Exhibit Committee: Sidney Curren, assistant to auditor, Public Service Electric & Gas Co., Newark, N. J.

Natural Gas Representatives Committee: F. B. Flahive, treasurer, Columbia Gas & Electric Corp., New York, N. Y.

Statistics Committee: H. C. Davidson, secretary, Consolidated Gas Company of New York, New York, N. Y.

Uniform Classification of Accounts Committee: H. M. Brundage, vice-president, Consolidated Gas Company of New York, New York, N. Y.

Advisory Committee: W. A. Doering, auditor, Boston Consolidated Gas Co., Boston, Mass.

Nominating Committee: W. A. Doering, auditor, Boston Consolidated Gas Company, Boston, Mass.

Affiliated Association Representatives: E. B. Nutt, auditor, Hope Natural Gas Company, Pittsburgh, Pa.

Publicity Committee: E. B. Nutt, auditor, Hope Natural Gas Company, Pittsburgh, Pa.

An innovation in the organization procedure was the holding of the meeting of committee chairmen following the meetings of the Managing and Advisory Committees. At this meeting the committee chairmen, having the benefit of the suggestions at the two preceding

meetings, were enabled to discuss questions of individual committee plans and scope and iron out all possible duplication of effort.

H. A. Ehrmann was assigned the task of submitting a plan for coordination of committee activities throughout the year. This as discussed will involve joint committee meetings where desirable, mutual correspondence between committee chairmen as organization plans develop, selection of meeting places, most economical and convenient for all committee members, etc.

E. B. Nutt, vice-chairman of the section, will have under his direction publicity with regard to Section activities, including the securing of accounting articles for the A. G. A. MONTHLY. Sectional members having material to submit for publication should get in touch with Mr. Nutt, Auditor, Hope Natural Gas Company, 545 William Penn Way, Pittsburgh, Pa.

Mr. Nutt will also supervise development of contacts with affiliated associations on accounting work.

F. B. Flahive, treasurer of the Columbia Gas & Electric Corp., of New York City, the chairman of the Natural Gas Representatives Committee, will have in charge the development of the interest and representation of natural gas representatives in the Section's work.

H. B. Bearden, commercial manager of The Laclede Gas Light Company, emphasized the need of some sort of yardstick to determine relative efficiencies of customer accounting departments and systems on a "man hour" basis. His committee has under consideration some timely subjects.

Mr. Eble, manager of the accounting department of the Consolidated Gas Company of New York, is making plans for the perpetuation of the fundamental charts and will have other items of interest, including a continuation of the "Wrinkle" records.

Mr. Cliff, of the Public Service Electric and Gas Company of New Jersey, who heads the Office Management Committee, will consider reports on spreading employment and various incentive plans.

M. F. Reeder, comptroller of The Peoples Gas Light and Coke Company, Chicago, will present some important topics for discussion at a later date.

The chairmen of the balance of the committees who, in their scope, are continuing committees, are planning innovations and are considering some possible changes.

Possible innovations in the manner of conducting sessions included:

Consideration of devoting the first session to a round table or forum for discussion of committee activities.

Confining duration of all sessions to two hours each, with provision for further discussion of specific reports by those members desiring to do so after adjournment.

Colonel Fogg Is Elected Vice-President of Edison Co.

O. H. Fogg

COLONEL O.H.FOGG, vice-president of the Consolidated Gas Company of New York, was elected a vice-president of The New York Edison Company at a meeting of the directors held November 29. Colonel Fogg is a director of the following nine companies of the Consolidated Gas group: Westchester Lighting Company, Bronx Gas and Electric Company, Central Union Gas Company, Northern Union Gas Company, National Coal and Coke Company, East River Gas Company, Standard Gas Light Company, United Electric Light and Power Company, and the New York and Queens Electric Light and Power Company. He served a year as vice-president of the American Gas Association in 1926 and two years as president, beginning in 1927.

Colonel Fogg entered the gas industry as an office boy with the United Gas Improvement Company, Philadelphia, where he was born. He entered the employ of the Consolidated Gas Company in 1904, in the department of mains and services, where he remained until 1910, when he was assigned to special research problems. In 1912 he was made utilization engineer and organized the utilization department, remaining its head until 1917, when he resigned to enter the army. During the World War he was engaged in the design of plants for the repair and maintenance of ordnance material in France, and also in recruiting, organizing and training enlisted and commissioned personnel. Later he was engaged with the troops in the construction of ordnance stations in France, and finally was placed in command of the Construction and Maintenance Divisions of the Ordnance Department, A. E. F., having been promoted to the rank of Lieutenant-Colonel. He received the French decoration of the *Ordre de l'Etoile Noire* and the Distinguished Service Medal from the United States Government.

Upon his discharge from the army in 1919, Colonel Fogg became secretary-manager of the American Gas Association, formed at that time by the amalgamation of the American Gas Institute and the National Commercial Gas Association. In 1924, he returned to the Consolidated Gas Company as vice-president in charge of commercial relations, customers' service, and utilization.

Show Temperature Effect on Tar Formation

THE Bureau of Mines has just issued Report of Investigations No. 3197, on the "Composition of the Fractions of Primary and High-Temperature Tar," by E. B. Kester and W. D. Pohle. This paper represents work done under a cooperative agreement between the Bureau of Mines, Department of Commerce, and the American Gas Association, in connection with the study of the gas, coke and by-product making properties of American coals. The authors have made a special study of the composition of the corresponding fractions of low- and high-temperature tars from the same coal in order to throw light on the net effect of temperature and heat treatment on the primary products of coal decomposition in high-temperature coking practice, with reference both to total quantities of chemically similar constituents and to their distribution throughout the boiling range.

No exactly parallel investigations are on record. The distribution of substances in high-temperature tars is fairly well understood. Such tars are more or less similar, consisting of the more stable phenols, aromatic and olefinic compounds resulting from the pyrolytic decomposition of a wide variety of primary tar constituents. Low-temperature tars, on the other hand, are much more complex and change in composition as the temperature of carbonization is increased, resulting, finally, in high-temperature tar.

In the present investigation, the primary tar was formed by distilling, at the lowest possible temperature, in an atmosphere of steam, in order to obtain the tar-forming constituents in as undecomposed a condition as possible. These are compared with the constituents obtained at a carbonizing temperature of 1000° C. (832° F.).

The authors conclude that the primary tar first formed by heating coal at low temperature on further exposure to heat breaks down in the following order: Paraffins and naphthenes, acids, neutral oil, aromatics, olefins and pitch. The olefins, aromatics and pitch appear to be the most resistant to change of type by pyrolysis, although there may be little structural similarity between the representatives of each found in the two tars.

Aromatic hydrocarbons exist as a major class of compounds in low-temperature tar, and they are the parent substances of the simpler aromatic compounds, such as benzene, phenol, etc., found in high-temperature tar.

The Report of Investigations 3197 may be obtained free of charge by writing directly to the Director of the U. S. Bureau of Mines, Washington, D. C.

Affiliated Association Activities

Missouri Association of Public Utilities

THE Missouri Association of Public Utilities will hold its next annual convention at Excelsior Springs, Mo., April 27, 28 and 29, 1933. Business sessions and the annual banquet will be held in the Elms Hotel. The Association membership includes electric, gas, water and street railway companies in Missouri.

The program is now being arranged by a committee, of which C. J. Prashaw, Missouri Power & Light Company, Kansas City, Mo., is chairman. Entertainment activities will be in charge of a Committee of which Paul C. Ford, Kansas City Gas Company, is chairman.

Pacific Coast Gas Association

THE annual Fall Organization Conference of the Pacific Coast Gas Association will be held in San Francisco's Civic Auditorium, December 14 and 15. It has been customary to hold this conference late in November, but the meeting has been delayed to take advantage of the annual Sales Conference of the Pacific Gas and Electric Company which will attract management, sales, and operating executives from all districts of the widespread territory of that company throughout Northern California.

It is expected to be a particularly impressive meeting to sales people because of the fact that as a part of its Sales Conference the Pacific Gas and Electric Company and the Gas Appliance Society of California are promoting an exhibition of gas and electric household appliances which will occupy the entire main floor of the Auditorium. This exhibition will be open to the public and is expected to attract thousands of Bay District people.

Most of the Association's meetings will take place on December 14. In the morning there will be meetings of Accounting, Public Relations, and Publicity and Advertising Sections, and a joint meeting of the Commercial and Technical Sections. This joint meeting is being held to discuss problems of venting and servicing gas appliances upon which both sections have put considerable study during the past year.

The Commercial Section will meet alone at luncheon to perfect its 1933 organization, while the Technical Section will meet during the entire day of December 15.

On the afternoon of December 14, there will be a joint meeting of all sections held under the auspices of the Public Relations Section to discuss customer relations problems. This will be styled a Customers Relations Conference.

On the evening of December 14 a huge gas industry rally is being organized jointly by the Gas Appliance Society of California and the Pacific Coast Gas Association. It is anticipated attendance at this rally and accompanying banquet will exceed 500, being drawn from gas company, manufacturer, and dealer personnel throughout California. At this rally the Pacific Gas and Electric Company will announce its sales and advertising program for 1933.

All arrangements for the meeting are in charge of H. L. Masser, president of the Pacific Coast Gas Association; R. N. Dreiman, chairman of the Accounting Section; E. P. Ramsay, chairman of the Publicity and Advertising Section; F. U. Naylor, chairman of the Commercial Section; R. L. Hinckley, chairman of the Manufacturers Section; D. L. Scott, chairman of the Public Relations Section; and Guy Corfield, chairman of the Technical Section.

R. E. Fisher, vice-president in charge of public relations and sales of the Pacific Gas and Electric Company, and past president of the Pacific Coast Gas Association, heads the committee in charge of the exhibition and correlation of the participation of the Association and the Gas Appliance Society.

Convention Calendar

December

6- 8 Meter School & Conference
Iowa State College, Ames, Iowa

14-15 Pacific Coast Gas Association
Annual Organization Conference
San Francisco, Calif.

1933

January

23-25 American Society Heating & Ventilating Engineers
Cincinnati, Ohio

23-27 American Institute of Electrical Engineers
New York, N. Y.

March

7- 8 Oklahoma Utilities Association
Hotel Biltmore, Oklahoma City, Okla.

27-31 American Society Civil Engineers
Miami, Fla.

April

21 Maryland Utilities Association
Lord Baltimore Hotel, Baltimore, Md.

27-29 Missouri Association of Public Utilities
Elms Hotel, Excelsior Springs, Mo.

May

2- 4 A.G.A. Southern Regional Sales Conference
Washington, D. C.

2- 4 Southern Gas Association
Washington, D. C.

2- 5 Chamber of Commerce of United States
Washington, D. C.

May 30 to June 2 Institution of Gas Engineers (British)
Liverpool, England

September

18-19 Canadian Gas Association
Ottawa, Ontario

Wk. 25 American Gas Association
15th Annual Convention, Stevens Hotel, Chicago, Ill.

The Maryland Utilities Association

ACCORDING to an announcement by President F. A. Mitchell, the eleventh annual meeting of The Maryland Utilities Association will be held Friday, April 21, 1933, at the Lord Baltimore Hotel, Baltimore, Md.

Meetings of the electric, gas and transportation groups will be held in the morning, a general session in the afternoon, with addresses by outstanding leaders in their particular fields, and a dinner, to be followed by dancing, in the evening. Arrangements have not been finally completed, but an interesting and attractive program has been outlined.

Entertainment will be provided for ladies attending this meeting, and it is earnestly desired that as many as possible arrange to be present.

Oklahoma Utilities Association

MARCH 7 and 8 have been selected as the dates for the 1933 convention of the Oklahoma Utilities Association and the Hotel Biltmore, Oklahoma City, as the place. The annual dinner will be held on March 7.

There will be a general session of all divisions the morning of the first day with telephone division session and joint session of electric, gas and electric railway the first afternoon and the second day. The convention will be a strictly business gathering with a program built around subjects of definite outstanding current importance.

The president of the association, R. J. Daugherty, represents the gas division.

Further details will be announced later by Manager Edward F. McKay.

A. G. A. Affiliated Associations

How They Started and How They Have Grown

By A. G. Schroeder
Secretary-Treasurer

MICHIGAN GAS ASSOCIATION

THE Michigan Gas Association is unique in that it has no company memberships, either active or associate; its membership is composed entirely of individuals, today about 250. However, the work of the Association is like that of similar bodies and has changed considerably with the passing of the years in that activities are now carried on that were not known in the early days.

Since it was organized, in 1893, the Association has established for itself a high place in the gas industry. Through contact with the University of Michigan, the organization's program for the education of young men in the gas industry, as provided in its Gas Fellowship, established in 1900, has put into the gas industry men who are now executives of high rank in some of the leading companies of the country. This Fellowship is said to be the oldest industrial fellowship in the United States. On the roll of those who have held this Fellowship in years past are such names as, Herman Russell, A. F. Traver, Samuel Ball.

J. E. Spindle, President, Michigan Gas Association

In addition to its Fellowship, during the past five years the Association has carried on a greatly expanded program of research activities through the Department of Engineering Research of the University of Michigan, having financed the employment of a full-time investigator attached to the staff of the University, in the person of Assistant Professor E. S. Pettyjohn, who

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Herewith is the eleventh of a series of articles appearing in the "A. G. A. Monthly" giving an outline of the history and accomplishments of State and district utility associations which are affiliated with the American Gas Association. Work of these associations has proved of great value and a distinct contribution to the advancement of the gas industry. It is believed that this series will focus yet greater attention on the splendid records of these organizations.

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has given full time to the work. This activity has also been under the general direction of Professor Alfred H. White, dean of the Department of Chemical Engineering, under whose able guiding hand the original Fellowship has been carried on ever since its inception. Valuable work has been done during these five years on such topics as the evaluation of bituminous coals for water gas manufacture in this territory and kindred operating problems, including the utilization of crude oil from the recently discovered Michigan oil fields.

Among the past presidents of the Association will be found the names of men who have played and are playing a conspicuous part in developing the gas industry in Michigan and elsewhere. Some of these are now dead, but most of them are still active in the industry. They include, Henry D. Walbridge, Henry W. Douglas, William M. Eaton, B. C. Cobb, W. H. Barthold, B. O. Tippy, D. H. Fraser, Warren S. Blauvelt, Glenn R. Chamberlain, Samuel Ball, J. W. Batten, J. A. Brown, F. W. Seymour, George H. Waring, B. G. Campbell, C. R. Henderson, Frank W. Steere, Frank A. Newton, A. I. Snyder, Professor Alfred H. White.

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(Continued on page 525)

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(Continued on page 525)

Commercial Section

WALTER C. BECKJORD, Chairman J. W. WEST, Jr., Secretary N. T. SELLMAN, Vice-Chairman

Dealer Cooperative Activities on the Pacific Coast*

By F. M. Banks

Southern California Gas Company

A GRAVE danger of discussing cooperative activities being carried on in one section of the country is the tendency to assume that, simply because they have been discussed or written about, such activities will be serviceable in any other locality. As a matter of fact some much discussed activities may have proved only partially, or only temporarily beneficial, and in any case activities which have proved successful for some time are probably successful largely because they have been fitted to the peculiar and special requirements of the section in which they are effective.

Therefore, lest anyone mistake this discussion to be offered as a panacea for his own problems, it is important to point out that constant change is necessary to keep up with changing conditions; that activities may be compared only in so far as the original problematic factors may be comparable; and that fundamental principles should be the guide to the ultimate goal of any plan of activity.

Cooperative activities in the Pacific Northwest, designed to meet the needs of a highly competitive electric situation, and undisturbed by natural gas activities of any moment, have developed in a reasonably orderly fashion during several years. In Northern California cooperative activities had attained a degree of stability before the recent introduction of natural gas which has served as a reasonably solid foundation for changes and further development. The Gas Appliance Society, an organization of manufacturers, retailers and utilities has served as a meeting ground for the discussion of problems and the development of ideas for several years, and the experience gained by all members from the cooperative campaigns and discussions of various trade practises has prepared the industry locally to meet the increased demands brought on by introduction of natural gas without the chaotic effects which otherwise might have been expected. Expansion of the functions of that organization to include joint campaign planning and advertising has been relatively simple and generally effective. Recent campaigns have been financed in part by utilities and in part by retailers through the purchase of tags with each appliance purchased for resale, receipts from tag sale going to the advertising fund.

That portion of Southern California lying north of San Diego has faced a different problem. The wide acceptance of gas for household purposes, resultant from the comparatively mild climate and the early introduction of natural gas, together with the relatively fast growth of the territory had made such demands upon the utilities that their greatest efforts were directed to extension of facilities and betterment of service. The same factors, plus remoteness from other manufacturing centers have contributed largely to the growth of a relatively large number of local manufacturers. Decreasing necessity for expansion has allowed more thought to be given to an orderly development of market, a matter which has become more urgent because of the recent and current criticism of and agitation against utility policies. It is probable that such criticism has helped those utilities to see their obligations more clearly from the point of view of the industry as a whole rather than from point of view of utilities only and at least some practical headway has been made.

One of the initial steps taken to meet such obligations was to conduct a series of meetings with large retailers, in order that the utilities might more clearly understand the problems of merchandisers, and also that the merchandisers might perceive their function to be distributors of good equipment rather than simply merchandisers of goods in volume. The statement of the department manager of one such concern that he could not see how any gas range could possibly be worth one hundred dollars to any purchaser is a striking example of the need for education. The value to the industry of permanence of investment is not self evident; that acceptance of old equipment in trade may be a distinct aid to promotional selling, and hence a contributing factor to market development for the retailer requires proof; the distinction between promotional selling and merchandising is not apparent, and until it is made so no merchandiser will realize the value to him of utility sales activities.

In the effort to develop a better understanding, advertising has served as a distinctly useful and practical background, and one generally appreciated. The activities of the P. C. G. Association, including radio broadcasts designed to reach women in the home; publicity articles in trade magazines of coast circulation, together with appropriate industrial and commercial advertisements; and domestic copy in a home and garden magazine of coast circulation, form the foundation. This work is conducted by an agency under the direction of a committee and is paid for by appropriation from utilities.

Additional joint utility advertising has been conducted by a joint committee of utilities. This work, including newspapers, poster boards and some direct mail, and providing layout assistance for retailers, together with advance samples of utility copy and window cards for tie-in purposes is carried on in addition to the normal advertising of the utilities, but all are fitted to the general program. Joint advertising copy necessarily directs appeal to service and performance, and to acceptance of the standard of the A. G. A. BLUE STAR. In order to gain the advantage of more direct merchandising appeal, cooperative campaigns over the area have been used to advantage. In order that all interested agencies might participate in the campaigns, range manufacturers or their agents (for example) were told of the plan, and they were asked to choose members for a standing range campaign committee, to meet upon call. Retailing associations, and trade associations were asked to do likewise. Similar committees were formed for other major appliances and with the aid of these committees, advance plans for campaigns and budgets were outlined. Each committee undertakes to agree upon the time and duration of a campaign for its line determines the special features, and the apportionment of expense of such features among the agencies involved.

Poster board space is utilized for general appeal prior to the period of special inducements. At the beginning of inducement period special stickers are posted on the existing displays to provide the "buy now" appeal. Manufacturers encourage and assist independent retailers to advertise their own equipment during this period, as participants in the cooperative activity. Utility news copy and direct mail tie-in with the whole.

The fact that all components of the local industry have some voice in the preparation of the program has added to the acceptance of the effort. Successful experience with some campaigns has increased confidence to the extent that future efforts will probably have the benefit of increased advertising by individual retailers. Many retailers have been outspoken in their praise of the work,

*Address before the Commercial Section, A. G. A. Convention, Atlantic City, N. J., Oct. 11, 1932.

and trade association officers and secretaries have sent letters to members and non-members alike in order to show the type of service which their association has to offer them. Manufacturers also have been diligent in securing participation of their dealers. Unquestionably the conduct of the activity has been somewhat cumbersome due to the diversified interests involved, and there is always some dissatisfaction concerning the details of any effort. However, it is hoped that experience and increased confidence will eliminate some of the difficulties. Meanwhile, the results on the whole, and the attitude of retailer and manufacturer have been highly pleasing.

Throughout the year advance advertising copy and window cards are provided for retailers and in the course of this work the utilities attempt to interest retailers, especially the smaller ones, to maintain better window displays. Retailers are also encouraged to discuss merchandising policies for the purpose of developing a better understanding of the industry's needs, and a definite appreciation of their function within the industry. Where extension of mains is possible from time to time retailers are encouraged to devote some of the time of their salesmen to outside sales work. If utilities are to open possible extensions to retailers in advance of canvassing the line themselves, experience dictates the necessity for assisting dealer salesmen. Not infrequently it proves difficult to show the retailer the absurdity of expecting such potential customers to come to his store without field solicitation. Once he has decided to enter the field it is important that he place trained men on the work. A poor or inexperienced salesman is too often inclined to sell low-priced equipment in order to make quick sales and often it is difficult to get the retailer to see that he will realize a greater return by offering reasonable extension of credit for better equipment, as he can thus obtain higher average sale per potential customer. Experience has indicated the necessity for assisting salesmen in this work of substitute selling lest the untrained salesmen talk the price down to such a level that no one makes a profit. In fact cases are not infrequent of salesmen advising potential customers to keep their present equipment until it is worn out, if they think they are on the point of losing out to a competitor. Such shortsighted practise may keep out a competitor, but it also may make the extension impossible. In this connection, it is apparent that an extension policy having the extension allowance predicated upon the equipment to be placed in service, or upon revenue, serves to interest dealers in placing more and better equipment on the line in order to assure that the extension will be made. For that reason some coast utilities have changed their extension rules to do away with flat allowances per customer.

The policy of advising retailers of possible extensions, indicating the necessary amount of business to assure it, has had an excellent effect upon dealer relations, particularly in fast growing sections. A little experience soon proves to the retailer in the smaller communities that he must put men in the field or the business will go to the large business centers or mail order houses. For example, an extension near a small community twenty-five miles from the metropolitan center was being canvassed, and 80 per cent of the appliances placed by non-utility men were from outside of that community. On the other hand where the small retailer in the smaller communities has devoted time to such extensions his results have been excellent. For example, the leading hardware merchant, who was the mayor of a small community was so pleased with the fairness of the utility in the matter of canvassing that he spent his own time on week-ends and his store sold approximately 50 per cent of the equipment sold on the extension, and most of the balance of the appliances sold on this extension to date were sold by another retailer in that community. His attitude has changed from one of active antagonism to one of intelligent cooperation, and he now carries a better line of merchandise than formerly.

A plan for establishing retailers as subagents for gas refrigerators has served effectively to increase sales and at the same time improve dealer relations by opening to them a new line of business on a profitable basis. The plan in effect for the past two years includes inducement for purchase and operation of displays by the retailer; compensation for leads turned over to the utility for closing; increased compensation for sales made and assigned to the utility for financing; and further increased compensation for sales closed and financed by the retailer. The effort is made to assist the retailers to become proficient themselves without leaning heavily on the utility for selling. They may call on the utility men assigned exclusively to that work for assistance in closing, but the assistance consists mainly of watching and later constructively criticizing the salesman's efforts. Group meetings of dealers are conducted from time to time by the utility to train them in sales methods and proper installation and operation. The utility men assigned to the activity are in constant contact with retailers and make prospect calls with dealer men to help them improve their selling presentations and closing arguments.

It should be pointed out clearly that this type of wholesaling by the utility, under normal circumstances, should be done only if the appliance so sold is one not generally available in the territory. To do the same with one or two makes of ranges would give insufficient consideration to the rights of the many other manufacturers and their dealers, and the more nearly the utility were to succeed in controlling the market, the more severe would be the damage to the others. Except in most unusual cases, for example, introduction of service in very small, isolated communities not provided with adequate retailing provisions, such plans are not used on the coast. It is recognized, however, that unusual circumstances may afford ample justification for use of plans of this character in some local areas.

Several coast companies are developing or have developed market analysis statistics which serve to guide their promotional expenditures and activity, as well as to provide a check of increased equipment saturation on their lines. The commercial section of the P.C.G. Association has fostered preparation of these statistics as well as statistics indicating the load value of appliances in service. The latter statistics indicate the realizable increment value of one type of appliance replacing another, or the value of an appliance alone or in combination with other appliances. These statistics have been most effectively employed to indicate to retailers the degree to which their local market is unsaturated with respect to various appliances, and the potential of unacquired business expressed in dollars of gross appliance sales. Such figures, when presented with comparable figures from areas better developed, seldom fail to impress retailers with the need for more intensive selling. When the figures are presented in the light of the relatively small proportion of the current business being done by the utility, the retailer and manufacturer become more sympathetic of the need for added selling effort, better terms, and coordinated activity.

The presentation of such information has also proved an effective starting point for distinguishing between merchandising and promotional selling. The retailer can be shown by statistics in his own section of the city that he can not expect "over the counter" selling alone to develop the optimum load condition. He will readily recognize that promotional necessity exists in varying degree in all lines. Manufacturers too can be interested to establish additional agencies in needy sections. Both can realize the helpful effect of reasonable financing and reasonable "trade-in" policies in promotional selling.

All that remains to be proved is that promotional selling is of benefit to them in developing or creating sales. It should be obvious to the retailer that field selling is difficult at best, but almost useless, unless the sales presentation can be built around a particular appliance. Now if the sales story is built around that appliance in a constructive manner it will sell a desire for the service to be performed by that appliance. If the appliance is not sold by the utility at the time there remains the important fact that the idea of service which has been sold may ultimately result in a purchase later, and in many cases from a retailer's store. In order to effectively prove that such selling is creative, and does benefit the retailers, some coast utilities check dealer sales obtained from local permits or otherwise, against utility sales call records and advise the retailer of the number of calls made by the utility salesmen on a particular customer during the six months' period preceding the sale.

One coast utility has recently started a plan to turn its employee prospect leads

over to dealers who will put men in the field to follow them. The plan has obvious advantages and disadvantages, and it may be interesting to watch the results to see if the same benefit is obtained as under the plan of utility follow up of such leads; whether customer reaction is adverse; and whether the retailers disabuse themselves of the idea that prospects from employees are so numerous as to preclude them from obtaining their normal amount of business.

During the past year P.C.G. Association and the P.C.E. Association created a Joint Trade Relations Committee with a Trade Relations Representative whose duty it is to assist in coordinating the activities of the industry by acquainting manufacturer, retailer and trade association, as well as utility with the problems and views of the industry. Some indication is evidenced that his work is beneficial in creating a better understanding. Not the least among his activities has been a program to interest utility district managers and sales managers in the views and needs of retailers, as well as in the necessity for educating them to see the industry's needs in a broader light. An effort is being made to have that interest and understanding passed on to the ranks of utility employees, where trouble most often originates because of a lack of understanding of utility policies.

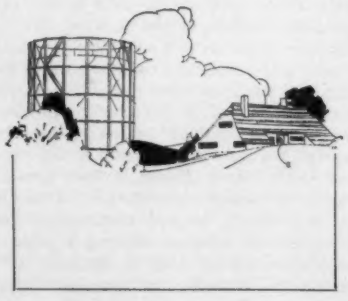
In the light of a retailer's understanding of the fundamental aim of promotional selling, and its beneficial effect upon his business the method of compensation of utility field salesmen becomes less controversial. However, with men paid entirely or principally by commission close supervision is required if flagrant cases of conflict are to be avoided. No case of straight commission compensation has come to my attention on the coast, but there is one case of straight salary payment which is said to be satisfactory. However, that utility serves only small communities over a scattered area, and possibly the acquaintance of prospect and utility salesmen and retailer aid in the successful operation. Pacific coast experience with straight salary in larger centers has been anything but good. The difficulty of supervision, the lessened incentive to create prospects, and the attempts of some retailers to bribe salesmen to turn their prospects over to them have made that method ineffectual.

Experience with the plan assigning utility field men to the job of creating prospects to be turned over to dealers, with commission paid upon dealer sales accomplishment has been poor. First, the task of creative selling with no particular appliance about which to build a sales presentation was extremely difficult, and the men fell into the habit of listing dealer sales without doing any work. Finally the dealers refused to furnish a list of sales unless the salesmen split their commissions with them.

If a utility sells appliances definitely representative of the best in each class it serves in the effort to establish a public acceptance of that standard and that price range, it becomes easier for retailers generally to sell at or near the same price range. If at the same time the utility selling program is constructive in that it sells on the basis of creating desire for service and is not directed solely at the particular appliance, then retailers will benefit directly from the work. Proper supervision of men on part salary and part commission under those conditions will produce results, and intelligent retailers can be brought to see it as a reasonable and helpful activity. If manufacturers will talk constructively to their dealers on the matter much headway will be made toward a proper understanding of the industry by retailers generally. Too often the tendency of manufacturer representatives is to agree with their dealers that utilities are usurping a field which is rightfully their own, knowing full well that he would talk differently if he happened to be selling to the utility in that territory.

An interesting experiment is being tried in two small communities on the coast, which bases compensation partly upon salary and partly upon commission but on an unusual basis. Each dealer in the salesman's territory has an established quota, based upon past records. If all dealers reach an average stipulated percentage of their quotas for the month and none falls below a stipulated minimum the salesman receives a higher percentage of commission upon the sales made by himself. If one dealer falls below the stipulated minimum, or all dealers fall below the aforementioned mark, the salesman receives a lessened scale of commission upon the sales which he has made. The plan has apparent complications, particularly for larger communities, but some beneficial experience may be gained from it. Under the plan the salesman has a personal interest in helping those dealers who are in the plan; the dealer has only to provide a statement of his sales to be included; the salesman receives no commission unless he sells equipment himself; and he has no incentive to play favorites among the dealers for he cannot tell which one may fall below the mark and thus throw him into a lower commission class for the month.

Since the market currently available for any equipment is limited to some extent by the terms upon which it is offered for sale, financing is a matter of first importance. As a rule utilities are inclined to overestimate the importance of extended terms and retailers to underestimate it, a situation not surprising when one considers that the utility has information available which shows the extent of market unacquired, and the retailer has not. Despite the utility interest in revenue from the load produced by the operation of added appliances, which interest the retailer cannot have, experience in more than one case has shown that a sensible demonstration of the market potential has the effect of softening the retailers' attitude toward extension of terms. Of course the views can never be brought closer than to the point of willingness on the part of each to recover the reasonable cost of financing, in one manner or another. Unless utilities be willing to undertake financing of all sales of good appliances, no matter by whom made, then under normal circumstances to finance sales of dealers to whom it wholesales equipment is fundamentally unsound.



Manufacturers are vitally interested, for they are often called upon to finance their dealer sales in order to secure volume, or to keep up with competitors. Normal finance company terms on small equipment, such as domestic gas appliances, are almost prohibitive because of the minimum charges necessitated by the isolation of risk and cost of handling the account. Finance companies will offer much better terms if the utility will collect all accounts, and usually with recourse upon the utility. Very few cases in which a utility has been willing to assume this burden has come to my attention. Upon occasion local finance companies may be prevailed upon to accept less restrictive terms for specified periods, for example, for a three-month water heater campaign, to accept paper from all accredited sales agencies for all accredited water heaters, but generally the plan is not available.

At the present state of development it may be that best results can be obtained by working out local plans, with the needs and ideas of all agencies taken into consideration. If manufacturer, retailer and utility have the same idea of the need for development of market, such local agreements can be worked out with considerable satisfaction. Cases are on record in which the interests reaching an agreement have also agreed to special terms for stated campaign periods. Possibly the best solution would be to foster the establishment of such agreements in major trade areas, to serve as precedents for less easily organized areas.

In conclusion, it has been demonstrated in more than one instance that when the utility has first undertaken the job of demonstrating sensibly the value of promotional selling, and the need for it if markets are to be opened adequately, then the attitude of retailers and manufacturers becomes at once less critical and more helpful. With a changed attitude, the solution of the finance problem becomes easier; agitation against utility promotional selling receives less attention; and properly supervised sales compensation plans are readily acceptable.

Home Service Committee

RUTH KLEINMAEIR, Chairman JESSIE McQUEEN, Secretary

Kitchen Modernization Puppet Show

A HOME Service activity of ever-increasing interest is that of kitchen planning, giving information to inquirers regarding the most used room in every home. The arrangement of equipment to be most saving of time and energy; assistance in selection of new equipment; and color schemes are part of the problems considered.

Miss Karen Fladoes

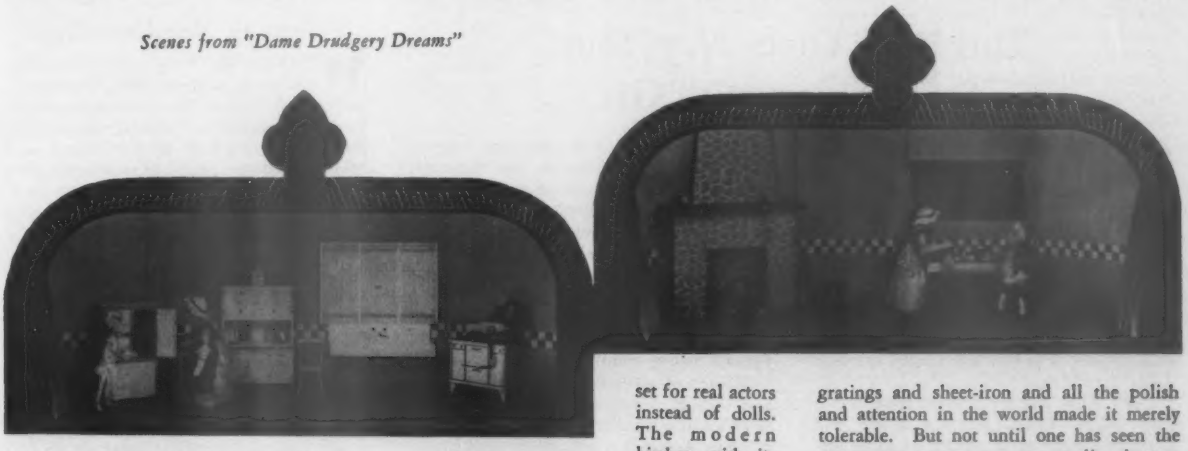
The home service department of the Equitable Gas Company, Pittsburgh, Pa., has developed an unusual scheme to present the subject to homemakers in the form of a "Puppet Show" entertainment, and Miss Karen Fladoes, home service director, reports genuine interest in the reception given the program.

"Seldom has the program of Utility Hall included a feature as interesting or as unusual as the Puppet Show which ran for four performances last month," said Miss Fladoes. The title was "Dame Drudgery Dreams"; the time, "a hundred years ago, more or less." The subject of the play was to put it most prosaically, Dame Drudgery's glimpse into the perfect kitchen —1932 model.

In the first of the two scenes, the old-fashioned kitchen of Dame Drudgery is shown, where she has to carry water, fetch wood, make the fire, bake the bread, and carry on a hundred-and-one other household tasks. At the end of the day, she is far too tired to accompany her spouse, Master Fussyhub, to a party given by Ben Franklin to show some newfangled idea he has evolved to benefit mankind. Instead she falls asleep and is then transported on the tail of Ben Franklin's kite to the home of the wizard where he has hundreds of things designed to benefit womankind. The second scene is the model kitchen where all these wonders are stored. Dame Drudgery, overwhelmed by the marvellous things she sees here, goes back to earth to spread these ideas abroad.

"Of course," added Miss Fladoes, "this outline can give no idea of the real cleverness of the play, which was a little masterpiece. Every detail was painstakingly cared for. The stage was set for both scenes with as much precision as on many a stage set for real actors instead of dolls. The modern kitchen with its gas range, double-drainboard sink, kitchen cabinet, and automatic refrigerator would arouse pangs of envy in the heart of any housewife. The puppets themselves were the work of artists, imaginative in design and capably executed. The authors handled the subject excellently, bringing out the points Utility Hall wished emphasized by means of rhymes. For example, a jingle on kitchen arrangement is the sort of thing that sticks in one's memory." The jingle follows:

Scenes from "Dame Drudgery Dreams"



First the stove and then the sink,
At right angles, I should think;
Then the cabinet and table
Just as close as you are able.
At right angles on the left
Refrigerator should be kept;
Here and there a handy shelf,
A thousand steps you save yourself.

"This matter of kitchen planning is a subject that has been given a great deal of thought in Utility Hall," Miss Fladoes explained. "Our kitchens, while greatly improved over those of our grandmothers, have still a long way to go before they reach perfection. It is our ambition to show women how by use of the right kind of equipment and its proper arrangement their kitchens can be made more convenient. This was the purpose of the Puppet Show."

House Matters

NOTHING in recent years has added so much to the attractiveness of the modern kitchen as has the metamorphosis of the gas range. Not so long ago the kitchen stove was a thing of cast-iron gratings and sheet-iron and all the polish and attention in the world made it merely tolerable. But not until one has seen the newer gas ranges can one realize how a thing of purely utilitarian purpose can contribute so much to making the kitchen as pretty as any room in the house.

Back two or three generations ago the convenience of the gas range was so great as compared with the wood stove then so generally in vogue that the designers needed to consider only sizes and capacity in order to market their product on every street where the gas mains were laid. The choice of colors was black, which was likely to become rust as the years went by and no cook or housewife was wont to point proudly to the stove however much that appliance contributed to the merit of the viands prepared.

When a 1908 horseless carriage parks in front of a 1932 model, one can see at a glance that the vehicle designers have made vast strides in combining grace with a purpose. The advance in the design of

gas ranges has been just as remarkable although not so evident to the average person because the facilities for parking stoves in juxtaposition are not so good. The housewife who has been entreating a tinsmith to patch up the twenty-year-old stove in order that heat will not escape from its rightful place—the oven—would be repaid by an inspection of the new model stoves, especially if she is concerned because her kitchen is not so attractive as those which are pictured in the advertisements in the women's magazines.

Even the most modest gas range—the kind that the young couple starting out would place in their cottage—is a thing of beauty with enamel in white or the pastel shades. And as for the more pretentious models, what else could be desired by the longest purse and the most artistic taste! I have in mind one with a trade name implying magical and patrician qualities which would mystify that queen of cooks (Grandma on the farm) so little has it of the appearance of a mere stove.

It is a cabinet which might house a radio, a phonograph and a desk. One model comes in Italian grand antique marble finish with old ivory trim and handles of onyx-green bakelite, and it is all enamelled. Would one ever have fancied a stove—a mere stove—described in such terms?

Withal the apparatus is entirely practical. The enamelled top lifts easily to form a screen for the back wall from the vapors from the kettles and pans. A tiny pilot light eliminates the use of matches; any burner can be started by turning a valve and pressing a button. And the oven, carefully insulated, is equipped with a control arrangement so that an afternoon out will not delay the dinner.

In other directions, also, gas has made its greatest advance in recent years and each advance has added to the convenience and comfort of the home. It has, for instance, solved the hot water problem. So great is the range of the gas-heater that Father no longer is told to take a cold shower or none at all on the morning when Biddy wants limitless hot water, for the weekly wash. And never, where these appliances are installed, must the evening dishwater be heated on the kitchen range because two people had baths before dinner.—November 5, 1932—*Saturday Night*, Toronto, Canada.

This Book Gives New Slant On Cooking with Gas

COLORFUL, informative, and strikingly illustrative of the supremacy of gas as a modern cooking medium, a new book has just come from the press. Entitled *Modern Cookery*, it appears with the imprint of The Philadelphia Gas Works Company, Philadelphia, Pa. Its issuance marks a valuable contribution to the development of the gas industry. Accorded a spontaneous welcome by the people of Philadelphia, it is believed worthy of much wider distribution.

Until quite recently a cook book was a cook book. Given accurate recipes and a suitable fuel, good results could be expected. It was only when oven heat control devices made their appearance that recipes had to be revised to take care of time and temperature. Cooking charts were added. Instructions were inserted in recipes to make them tie in with the charts.

But the advent of full-automatic cooking called for something more revolutionary. When clocks began to appear on electric ranges, books were prepared by some of the manufacturers to take care of the innovation. Then came clock-control cooking in its superlative degree with gas as the fuel. This is virtually a development of the last year or so.

One of the first gas companies to take up full-automatic cooking and promote it aggressively was The Philadelphia Gas Works Company. In fact that company decided some months ago to talk and advertise only ranges of the insulated type with clock control and oven-heat control. And this decision connoted that instructions should be available so that customers would get the maximum of service out of the new cooking appliances.

No cook book in existence met the requirements. So it was decided to compile a new book which would embody all the essential cooking information, help the housewife enjoy fully the convenience of her automatic range and get greater value for the money spent for food.

Months of research and careful selection and testing of recipes preceded the actual work of compilation. In this the American Gas Association and other agencies cooperated. When these details had been completed, the general plan and treatment of the book were worked out.

The result is something entirely new and distinctive. Strictly speaking, it is not to be classed merely as a cook book, but as a complete treatise on the modern art of gas cookery. In the processes treated, many new methods and theories are advanced and old ones discarded.

The book contains 72 pages, printed in four colors on enamel paper and bound in an artistic cover.

Upon opening it, the reader is impressed at once by the brilliant, lifelike illustrations. These are in four colors and picture foods which were freshly cooked for the purpose and exposed on the photographic plates just as they were taken from the oven. These illustrations do more than depict the foods, they present the latest ideas for setting tables with an eye to tastiness and symmetry.

A departure from formerly accepted cooking methods is found in the book in the matter of searing. In fact searing is not recommended at all. This new no-searing practice, it is explained, is sponsored by the Department of Agriculture, the meat packers and various State agriculture colleges.

Housewives will find the arrangement of the book most convenient. Recipes are segregated under such section headings as Boiling, Frying, Broiling, Roasting, Oven Meals, Baking, Sea Food, Soups, Salads, Desserts, Holiday and Party Menus. A particularly interesting chapter is that on Marketing.

The general foreword and introductions to the various sections are handled in a chatty feminine style and accentuate repeatedly the new freedom brought to women by full-automatic gas cookery.

Modern Cookery is copyrighted by The Philadelphia Gas Works Company. However, arrangements can be made by other gas companies or associated interests to print editions for themselves, either in the present form or with revisions.

William G. Von Gemmingen

WILLIAM G. VON GEMMINGEN, consulting engineer, died October 17 at Eastland, Texas. He had been active in the manufactured and natural gas industry for twenty years both as a consultant and operating official. His offices were in New York.

Born fifty years ago in West View, Virginia, he was the son of Baron Sigmund Von Gemmingen, who came to this country before the Civil War and married Miss Mary Webb, of Richmond, Virginia. He was educated at Rock Hill College and in Germany at the University of Gottingen.

After a year in charge of the construction of railroad bridges for the Lake Champlain & Moriah Railroad at Pt. Henry, New York. Mr. Von Gemmingen in 1910 accepted a position as construction engineer with Forstall & Robinson and was sent to Brockton, Mass., as general superintendent of the gas plant there. He also managed several other gas properties for this firm, and was associated as construction engineer and operator with the engineering company of Isbell-Porter in Newark, N. J., and was general manager of the Norfolk City Gas Company, which later was absorbed by the Engineers Public Service Company. During the war, he was operator of gas plants in Meriden, Conn.; New Haven, Conn.; Brockton, Mass.; Massena, N. Y.; and Schenectady, N. Y.

In 1918, Mr. Von Gemmingen was at the Baltimore plant of the United States Industrial Chemical Company engaged in research on the recovery of potash, glycerine, tar oils, gas and decolorizing carbon. He then joined the Aluminum Company of America and put in a new carbon and gas plant.

Natural Gas Department

GEORGE W. RATCLIFFE, Chairman A. E. HIGGINS, Secretary FRANK L. CHASE, Vice-Chairman

Governing Factors of Natural Gas Products*

By A. W. Ambrose

WE witnessed in the natural gas industry during the years 1926 to 1929 the construction of a great many projects of varying sizes and kinds. Certain history has been developed and in retrospect, it appears that some projects have succeeded; others apparently have failed. Those that were not wholly successful may have not secured, on account of the economic distress in the last three years, the volume of sales that was contemplated at the outset. Others, it may be, were not clearly and thoroughly planned in advance. We who have been associated with certain new developments in the past should take occasion to reflect on whether at all times we have applied conservative analytical reasoning to the planning of each enterprise. Certain it is that present difficult times will impress indelibly on our minds the necessity of such analysis.

The problem in natural gas utilization is the economic accomplishment of bringing gas to the burner tip at proper pressure from some underground point under natural pressure. Between these two points—of origin and of use—the entire natural gas industry functions. And that leads directly to the subject matter of this paper.

What are the prerequisites of a good project in the natural gas business? I believe they may be summarized in a general way, as

(1) Adequate supply with proper reserves.

(2) Well-balanced markets within economic reach of this supply and

(3) Good management.

Each of these topics could form the nucleus of a paper, but for final determination of the wisdom of a project, it is the combination of all three that is of importance. In considering certain phases of the industry in this paper, it will be noticed throughout that experienced management is vital in weighing each of the many problems. Good management will consider not only the supply, the markets and the pipe line, but also will seek out and attempt to avoid the pitfalls that may not be apparent to those less experienced.

Considering first the supply, it is quite apparent that adequate supply and ample reserves are necessary for any well-founded natural gas project. There is a chance for the exercise of real discretion in deciding that a reserve is adequate, and whether such reserve will be available when needed. Unless the reserve is adequate, the economics of the entire project may fail, with resultant difficulty to the investor, and consumer. As a factor of safety, the reserve should usually be in excess of the estimated market demand. This will protect against any errors in estimating the reserve, any unforeseen waste of gas either at the surface or underground, or any other unexpected pipe lines that may take gas from the reserve.

Unit Plan Develops Slowly

A reserve should be sufficient to provide an amount of gas that will amortize the cost of a pipe line at a fair rate of return over such period of time as it appears a market will be available. Certain risk may be taken if the pipe line traverses an area where geological evidence indicates additional gas may be developed or where it may be found within economic reach of the line. Gas production engineers can estimate, within a fair degree of accuracy, the reserves in a field after a reasonable number of wells have been drilled to determine the outline of the pool, sand thickness and porosity, open flow and rock pressure.

We of the Mid-Continent have found too often that when the natural gas occurs with the oil, much of the gas will be wasted. In a field producing both oil and gas, there are usually surface wastes and underground losses from improper drilling and casing of wells. The great haste to secure the oil results in a gas production that is in excess of the economic requirements for the gas in the field, and today we find in such areas as the Panhandle of Texas perhaps 200,000,000 cu.ft. of gas daily blowing into the air. So, under present producing practices, a gas supply located in a field producing only gas is preferable to a gas supply in a combination oil and gas field. There are state laws that would seem adequate, but for various reasons these do not prevent the waste of gas. The plan of unit-operation for our oil and gas field operations was advanced years ago by Henry L. Doherty, yet in spite of its admitted soundness, the application has been all too slow.

It is important for operators to employ a competent staff of geologists to seek new reserves which may be available if required. Geology plays a most active and necessary part in such exploratory work and with the improvement in scientific instruments the work of the skilled geologist has gradually become more exact. However, the final proof of an underground supply is determined only by drilling. As a result, gas companies with experience carry under lease much more acreage than is actually necessary at the moment to supply their market demands. Not only that, but this acreage has a considerable turn-over, for as additional information is developed, some is released and only the most promising is retained. In order to do this, it is necessary to employ geologists and land men for leasing purposes, and expenditures must be made for bonuses and rentals. This process gradually results in building up a capital investment in leaseholds which is justified from the standpoint of future reserves to serve the continuous demands of domestic and industrial customers. A municipality which has granted a franchise to a gas company is entitled to the protection afforded by an adequate gas reserve and to the knowledge that the company is taking such precaution as is within its power to insure an unfailing supply. The relationship is mutual, and when the public is convinced of the company's integrity and sincere efforts in providing such reserve then the company is entitled to the support of the public and customers, generally.

Any project that is based on an inadequate knowledge of the gas reserves, or with the hope that later development will provide gas is taking a risk that good business judgment cannot accept.

Talent and Experience Needed

The method of developing the available supply for a sizeable project involves an experienced force, not only to find gas, but also to drill, produce, and transport it to market. No effort will be made to cover these topics in this paper. Suffice it to say, that to be handled properly, skill, engineering talent and operating experience are necessary.

Formulae, based on theory and tempered by experience, assist the engineer in designing economically a line to handle a given load. Compressor station operation becomes almost a routine

*Address delivered before Natural Gas Department, A. G. A. Convention, Atlantic City, N. J., Oct. 10, 1932.

duty with men familiar with such work.

But the handling of a large pipe line is no routine matter. The operation of a large pipe line system with its numerous sources of supply and even more numerous marketing outlets is one of varying conditions. Peak days always present problems and the gas dispatcher, or pressure man, in the central office must be constantly on the alert to obviate a shortage of gas in the cities and towns on the system. Operation of the system by the dispatcher is another feature which alone would furnish subject matter for an article of much interest.

Before taking leave of the production and transportation facilities, it should be stated that these, with the distribution plants, are the great bulk of the investment of a gas company. These facilities, together with the value of gas reserves and intangibles, form the basis of value upon which financing must be based and also upon which rate making must be predicated.

There are varying types of construction which influence the value of a gas property. Good design and construction are highly desirable, as these will provide more certain services. Poorly constructed facilities indicate either a lack of faith in the project undertaken or a lack of knowledge of what constitutes first-class construction. Fortunately, the natural gas industry has shown, for the most part, a faith in its destiny which has caused it to construct facilities of which it need not be ashamed.

We now come to the subject of market for the gas. The size of any project is dependent on the markets, both present and potential. Consequently, most serious thought and study should be given to the essential characteristics of a market which must serve as the basis for earnings. The location of the markets must be within economic reach of the supply in order that a properly designed pipe line can be constructed and operated at a load factor sufficient to pay operating expenses and earn a return on as well as amortize the line over the period of years. This period is that which it is estimated the supply and markets will be available at a fair price. It may be assumed that under normal conditions the market is amply large to work the pipe line system to capacity on peak days, and will not over-tax the distribution system on those days. In this assumption must also be included the understanding that a market exists, that is, that there is a desire for gas for various purposes. After this, perhaps the two most important factors are first—Rate Structure; and second—Load Factor. Clearly, these two factors are interdependent.

Classification of Consumers

In rate structures, the various classes of consumers may be considered as domestic, preferred industrial and straight industrial—a part of which may be in the nature of a dump load. The domestic load is made up of cooking, water heating, and generally, househeating. The nature of this load is such that it presents a poor load factor and for that reason will earn the highest rate in a well-balanced and logical rate structure. The rate for domestic gas is not essentially competitive, since in cleanliness, convenience, and general facility of use, gas is so far superior to other fuels that consumers are willing to pay more for it.

Preferred industrials may be defined as those small industrials, such as laundries and bakeries which, because of the quickness of heat, cleanliness and convenience of gas, are willing to pay more per heat unit in gas than in other fuels. In a proper rate structure these will earn a lower rate than straight domestic because of the better load factor and greater consumption.

The large industrials are those which consume large quantities of gas, usually with a high load factor. Because of this high load factor, large consumption, and their ability to switch to other fuels in an emergency, they are in a position to earn the low rate on the schedule.

Load factor may be defined as the average load divided by the peak load. On a yearly basis, it is the average day load divided by the peak day load. Obviously, the higher the load factor, the less per unit it costs to deliver gas to the market. Thus, in balancing a load, so as to obtain the highest load factor possible, the low load factor business must be balanced by high load factor business and furthermore, the low load factor business must of necessity pay the highest price; whereas, the high load factor business can be sold at the lowest price. These are universally recognized statements, but their reiteration may be worth while now, because of our desire for load and revenue during this depression. In fact, some of us may be led into taking on low load factor business without the offsetting or balancing high load factor sale which is so necessary for a well-rounded market. This can be partially overcome by selling gas to large consumers at a low rate, but with high load factor when they have stand-by fuel facilities. Any profit made from these sales can go toward paying the fixed charges which for the most part have been incurred as a result of designing for the high-peak low load factor business, and, therefore, are a constant item of expense. There are two other beneficial results from the high load factor business. First, it decreases the delivery cost per unit of all gas and second, it can be turned off and on at will, thus acting as a safety valve for the low load factor domestic load. Cleanliness and convenience play a very small part in the use of natural gas by large consumers of this type and the price must be on a competitive basis with other fuels.

Knowledge of Reserve Necessary

The discussion so far indicates experience, skill and judgment are essential to our natural gas projects—all of these and more are embodied in good management. Management includes the ability to conceive a new project, to interest capital in a new venture, and to take materials and labor and cause the physical property to become a reality. Good management comes through inherent ability, sound training and adequate experience. Its purpose must be to furnish a commodity at the lowest cost to the consuming public and at the same time earn a proper return on the investment. It must have the ability to see not only the favorable factors surrounding a business or project, but it must see the hazards as well.

In the natural gas industry, management must know the requisites of a proper gas reserve and keep such reserve ready for use at the time it is needed. It must be able to assemble and direct Geological and Land forces so that this reserve is a reality. Management must have the ability to differentiate between a desire and a demand for gas and to devise a rate structure which will appeal to the various consumers, both present and potential. Good management knows the importance of rate structures and load factors and should design a rate so that the resulting load factor will be best obtainable for the maximum return. Management must recognize, and in some instances anticipate, the changes which are constantly taking place in the industry and adjust the operations and policies of the company accordingly.

Gas companies must sell gas and its advantages in use in order to survive. Therefore, salesmanship of the highest type plays a large part in their success, hence our New Business Departments. It is not enough to have the supply available. Well-informed and directed salesmen must contact the potential buyers with the thought of obtaining new customers through instruction as to the benefits of gas, methods of utilization, rate structure and resultant costs in comparison with other fuels. The rapid development of househeating is a most outstanding proof of the value of salesmanship in the gas industry.

Management must avoid, if possible, the pitfalls in the industry. Perhaps none of these seem greater at present than a loss of markets through poor business conditions. Depressions such as the present one are common of course to all industries and in that respect the gas business is in no different position than other industries.

One disturbing element may be the discovery of local gas. So often the amount is not ample to supply all of the immediate markets, but is sufficient to provide a small part of the requirements of the markets within a short distance. To sell this, the price is lowered by the local producers, after which agitation is started for reduction in the price structure. The solution of the local gas problem in the Mid-Continent generally works out unfavorably to all concerned. Each situa-

tion must be met by the Management as it arises.

Must Consider Politics

Then there is the disturbing element of "raiding" possible in all projects. This is never profitable, and companies with sound management realize such tactics invariably cause loss to both sides. In the market studies before the start of any project, thought must be given to the possibilities of a raider, bearing in mind the nature of the market control, as well as the distance to a gas supply, and the economic possibilities of a line with a part of the total load. The small raider may have boiler tube lines on top of the ground, from a small supply that gives little or no assurance of good service. The consumer should give cognizance to this in any demand for a lower rate.

Politics is a matter which most gas companies do not like, but must consider. Perhaps under today's distressed conditions, the politician gets some recognition from the voter by an attack on the public utilities. In that event we must meet the issue only with clean hands and with a program to educate the public to the importance and value of our business to them. If this is done, we may rely on receiving over a period of time, proper consideration by the public. We can further depend on public officers granting a rate in our markets and providing rules and regulations in our field supply so that these two will be reasonable factors in affording our business a fair return on the investment. To this, we are entitled, and this we will receive in the long run.

Competitive fuels often change in price, freight schedules of these fuels may vary and as a result readjustment of the rate structure may be necessary. Rate making bodies must be worked with, and if this becomes involved in politics, the problem becomes more accentuated. These are some of the difficulties to be faced by an adequate management.

No greater problem has presented itself in recent years to any management than the problem of handling its personnel during a period of large losses in sales. Domestic sales have been affected and some industrial consumers have completely shut down their plants. As a result, drastic reduction in operating expenses has been necessary.

In conclusion, I wish to point out that it has been impossible to go into any detail on any one part of the subject matter of this paper. An effort has been made to bring out that all parts of our business are subject to careful analyses, that the many problems require the judgment of excellent and experienced management, and if this is provided our business will offer no greater risk than any other well conducted business venture. The gas business will be subject, of course, to the error of human judgment as are all businesses dependent on human guidance. Just now, we are in a period of slow industrial business, but we should continue to have faith in our business and carry on, for ours is an essential service of a commodity. The industry must undergo vicissitudes due to changing business conditions, and no doubt will always encounter difficulties because of its inherent classification as a public utility, yet with efficient and foresighted guidance by experienced executives who have spent a lifetime under its banner, its future can be viewed with strong optimism and with a firm faith that it will continue to occupy an enviable position among the major industries of our country.

H. J. Hoover Buys "Natural Gas"

ON December 31, the ownership of "Natural Gas" magazine will pass from the Natural Gas Department of the American Gas Association to H. J. Hoover, Cincinnati, Ohio, according to announcement made by him. He said:

" 'Natural Gas' was established for the Natural Gas Association of America in 1920 by the directors of the Association and I, then president of the Association, as we recognized the need of such a publication to properly represent the natural gas industry.

"During the existence of the Natural Gas Association of America and following its amalgamation with the American Gas Association when it became the Natural Gas Department of the American Gas Association, the magazine has been under my general supervision.

"The Managing Committee of the Natural Gas Department, believing the best interests of the Association and the industry would be served by having the magazine owned and controlled by forces from without the Association, but desiring to continue its future in the hands of natural gas men, decided to accept an offer from me for the purchase of the magazine.

"The magazine will continue to be the natural gas men's book. It will continue to properly represent the industry that is producing, transporting and distributing the world's best fuel. I will have associated with me, in an advisory capacity, a group of the ablest natural gas men in America.

"The publication offices of 'Natural Gas' will remain where they now are—4 West Seventh Street, Cincinnati, Ohio."

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By F. R. Wright

Publications Editor, A. G. A. Laboratory

DURING the past few years the practice of blending various fuel gases to augment or replace existing gas supplies has received an increasing amount of attention. Unquestionably, the mixing of various kinds of gases represents one of the most effective means of meeting increased demands upon the system with a minimum investment in plant and equipment. In many cases the mixing of gases may make possible a reduction in cost to the consumer and in the end promote the advancement of gas in the field of competitive fuels. On the other hand, unless gas mixing is carefully planned and proper methods employed, with the variations of important factors such as heating value, specific gravity and chemical composition properly controlled, many difficulties may be encountered and unsatisfacory appliance service result.

Recognizing the necessity for complete and accurate fundamental data on the possible limits of gas mixing, consistent with safe and satisfactory service, the A. G. A. Committee on Engineering and Economic Survey of the Gas Industry appointed in 1926 a subcommittee known as the Mixed Gas Research Committee to plan and direct an investigation of this subject. Mr. F. C. Weber, Assistant Vice-President, The Brooklyn Union Gas Company, was selected as chairman of this committee.

Research in accordance with the program outlined by the committee was started at the A. G. A. Laboratory in February, 1927. The phases of the subject deemed of primary interest at that time were the first investigated. These included a study of the allowable variations in specific gravity, heating value, chemical composition, and pressure without compensating adjustments in appliances, when using natural and manufactured gases and mixtures of both of them.

In view of the fact that by-product gases from other industries are often available at a cost less than that involved in producing gases by the manufacturing process in use, the economic advantage of using such gases to augment the base supply is frequently advantageous. Among such gases are coke oven gas produced in connection with the steel industry, oil gases from refineries, and the residual gas resulting from the production of carbon black in the natural gas fields. In addition, where coal gas is supplied, it may be more economical from the standpoint of plant investment to provide water gas equipment and augment the base supply by the use of mixed coal gas and water gas to meet peak or seasonal demands.

Of possibly greater importance than the blending of manufactured gas is the use of natural gas for mixing with various manufactured gases to either enrich or augment the base supply. The discovery of many new natural gas fields coupled with extensive developments in the long distance transmission of natural gas has caused the use of natural gas for mixing purposes to assume considerable importance.

The first part of the investigation, therefore, involved a study not only of various manufactured gas mixtures but also mixtures of natural and manufactured gases. Upon completing the study of such mixtures early in 1930 a summary report was prepared and published setting forth, in a condensed form, complete data on the permissible limits of gas mixing as outlined above. Copies of this report (No. 597) are available to accredited company delegates upon application to Association Headquarters.

As the investigation of various manufactured and manufactured-natural gas mixtures was nearing completion, the need for basic information concerning the limits of usage of liquefied petroleum gases for mixing purposes became evident; consequently, an investigation dealing with the use of butane was next undertaken. This study included not only an investigation of the use of butane for mixing with low heating value manufactured gases to augment or replace natural or mixed gases, but also its use as a carburetant for air. The research on the use of butane was completed early in 1932. The results secured have been summarized in a second bulletin (Report No. 645) which was published in May of this year. Copies of this bulletin may also be secured by accredited company delegates upon application to Association Headquarters.

Recently, a third bulletin (Report No. 689) was prepared by the Laboratory presenting, (1) results of additional studies in the dilution of various natural gases by the use of low heating value manufactured gases and mixtures of gases, (2) a summary of the results obtained in the entire investigation and their application to practical gas mixing problems, and (3) an empirical formula developed by Laboratory engineers for determining the limits of possible gas mixing based upon the data procured in the study of this entire subject. Although this bulletin is not available in printed form at this writing (October 17), it has been approved by the Executive Board and it is expected that it will be published in the near future and that copies will also be available to member companies through the Headquarters Office of the American Gas Association. The committee and the Laboratory have received the thanks of the Board for this work.

During the course of this investigation more than 175,000 separate tests and determinations were made, involving the preparation and study of over 250 different gas mixtures. Twenty-five different progress reports were prepared as the investigation progressed, totaling approximately 2,000 pages of data, illustrations, and discussions of results. All of these data are clearly summarized in the three bulletins referred to above, but where more detailed information is desired an examination can be made of the complete data on file at the A. G. A. Laboratory upon making application to the Association.

It is believed that this is one of the most worthwhile investigations ever undertaken by the gas industry and the results of it should be of inestimable value to our members and to the ultimate users of our product. The value of this work will, of course, depend upon the extent to which our member companies take advantage of the information secured. There is no false illusion that this is the sole and ultimate solution to all gas mixing problems and the cure for all production difficulties. The correct and practical solution of individual company production problems will, of course, depend on the economics involved including the capacity to use the raw materials and production facilities available as well as on the ability to apply the results of this investigation so as to insure at a cost competitive with other fuels, a satisfactory and economic service to our customers who depend upon it as a daily necessity.

Technical Section

J. A. PERRY, Chairman — H. W. HARTMAN, Secretary — O. S. HAGERMAN, Vice-Chairman

Repairing Water Leak in Inlet Connection of Two Million Cu. Ft. Holder

By W. J. MURDOCK

District Manager, Western United Gas & Electric Co., Aurora, Ill.

LAST October our two million cubic foot waterseal holder which, though filled with gas had been off the line for several months, started showing large amounts of water in the inlet drip. Suspecting a leak either from holder water tank, or from surface water beneath the holder bottom into the main, we made a test by filling drip and piping to the inlet riser with water up to a point about one foot above water tank bottom. The water level dropped rapidly through leak, then remained stationary at a point which corrected for holder pressure showed the leak to be from surface water outside the holder tank.

Inasmuch as the piping to the riser extended towards the center of the holder 65 feet and was concreted in, it was impractical to try to repair the leak from outside the pipe. From experience gained when we were faced with a somewhat similar difficulty back in 1918, when we had a leak in the riser of one of our other holders, we proceeded as follows:

We first physically disconnected this inlet piping from other gas connections and landed the holder, holding about ½" gas pressure in crown to prevent infiltration of air. With the drip pot and piping filled with water as a seal, we then removed the top of drip pot preparatory to purging.

The problem of safely purging 100 feet of 30" pipe of gas or about 700 feet of gas presented itself. As we did not have a purging machine available we decided to use liquid CO_2. The use of tanks have their drawbacks due to freezing of the liquid in the tank and the clogging of nozzles if the release is too rapid. As time was a factor we wanted the purge to be effected as soon as possible. The use of solid CO_2 or dry ice was considered. A local supply was found at the ice cream plant, the cost was less than half that of liquid CO_2 and there was no possibility of slowing up the time of purge.

The method used was to make a wire basket in which we placed about sixty pounds of dry ice cut up into 3" cubes. The basket was attached to the drip pipe which extended through the drip pot cover in such a way as to hold the dry ice off the bottom of the drip pot when the cover was replaced. Steam was then passed through this drip pipe agitating and warming the water so as to speed up the change of the CO_2 from solid to gaseous form.

We then removed crown plate above inlet riser and dropped a weighted gas tight canvas tube down over inlet riser letting the tube seal about 2 feet in the water. This tube was flanged at the top to fit the holder crown gas tight. This tube was held in shape by rings made collapsible for the purpose of entering it through the hole in the crown which was only 20" diameter, whereas the riser was 30" diameter. All metal parts were taped to prevent sparks.

We then continued the CO_2 purge until all traces of gas had left the connections, removed plate from top of drip and syphoned out the water laying in the main.

After purging the CO_2 out of the piping with a blast of air we were prepared to have men enter the main to make the necessary repairs.

As a safety measure this man had a rope fastened about his waist so that if need be, he could be drawn back out of the main by the men outside. Once inside the tools were lowered to the worker from the opening in the holder crown down through the riser.

An hour's work with lead wool and a caulking tool stopped the leak, which was found to be a partly blown gasket in the connection immediately below the tank bottom.

During this time it was an easy matter to communicate with the man as the main answered as a perfect speaking tube.

In putting the holder back in service we filled the drip pot with water dropped in necessary dry ice and replaced the cover. Then after all the air had been forced out of riser with CO_2 removed the tube and replaced the crown plate. For this whole job the holder was only out of service about nine hours.

The sketch herewith shows details of the holder connections and canvas tube.

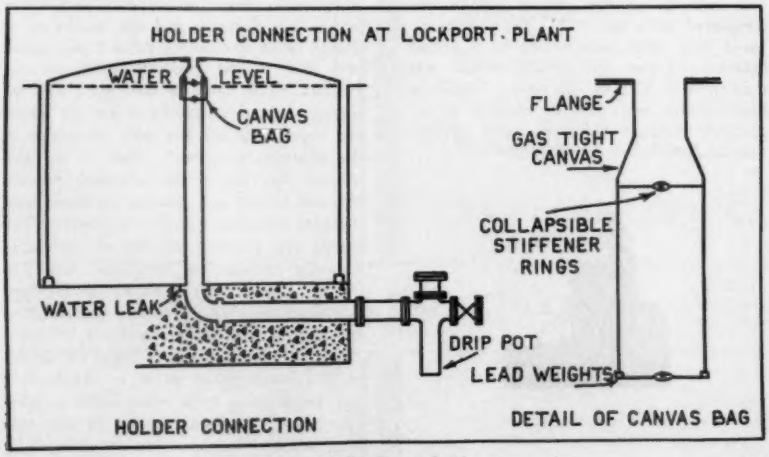

Diagram showing details of holder connection.

Pipe Coatings and Corrosion Committee Meets with Manufacturers

ON November 3 and 4, 1932, Geo. H. Boyd, chairman of the Subcommittee on Pipe Coatings and Corrosion, called a two-day meeting of the committee to which all manufacturers of Pipe coatings cooperating in the Association's research were invited to present their criticisms and comments on the report of the Association's research associate—Dr. Scott Ewing. The following were present:

Geo. H. Boyd, chairman, Consolidated Gas Co. of New York, New York, N. Y.; C. A. Harrison, chairman—Distribution Committee, H. L. Doherty & Co., New York, N. Y.; Chas. F. Turner, East Ohio Gas Co., Cleveland, Ohio; A. V. Smith, The United Gas Improve-

ment Co., Philadelphia, Pa.; K. H. Logan, U. S. Bureau of Standards, Washington, D. C.; Gordon Scott, Research Associate, American Petroleum Institute; Scott Ewing, Research Associate, American Gas Association; Coating Manufacturers.

Dr. Ewing's report (which represented results on the second set of samples of coated pipe removed fom the locations selected for the A. G. A. tests) was fully discussed and statements therein removed or modified wherever it was demonstrated that such statements were not justified by the data or were susceptible of unfair implications with regard to any manufacturer's product. It is hoped to make Dr. Ewing's report available in printed form some time in December.

At a meeting of the gas company representatives on November 4, it was decided that much information with regard to corrosion and remedial measures not necessarily falling within the scope of the A. G. A tests, or necessarily demonstrable from the data thus far developed therein, should be made available to the distribution engineer so that in approaching his individual problems, he could avail himself of such information as might be considered properly supplementary to the research data available. It was decided that such information would be included in a report of the committee itself to be printed in connection with the report of the Research Associate.

Manufacturers who attended the meeting follow:

A. L. Halvorsen, Emulsion Process Company; Frank Yeager, Barrett Company; Henry Harley, National Tube Company; Linden Stuart, Wailes Dove-Hermiston Corp.; W. H. T. Thornhill, Wailes Dove-Hermiston Corp.; F. E. Wormser, Lead Industries Association; Carlton H. Rose, Lead Industries Association; Deming Bronson, General Paint Corp.; J. M. Evans, Johns Manville Corp.; E. H. Berger, Johns Manville Corp.; W. M. MacAlpine, Flintkote Corp.; C. N. Forrest, Barber Asphalt Co.; C. V. Schmitton, Johnson-March Corp. (McEverlast); F. H. Gilpin and H. R. Thurston, The Texas Co.

Comparison of Small and Large Scale Experimental Carbonizing Apparatus

THE eighth report on the cooperative carbonizing studies of the United States Bureau of Mines and the American Gas Association has been issued recently by the Bureau of Mines and may be obtained from the Superintendent of Documents, Washington, D. C., price 5 cents.

This report, Technical Paper 543, entitled "Comparison of Small and Large Scale Experimental Carbonizing Apparatus—Tests of Pittsburgh Bed Coal from Allison Mine, Fayette County, Pa., and of a Coal from the Michel Mine, British Columbia," by A. C. Fieldner, J. D. Davis, E. B. Kester, W. A. Selvig, D. A. Reynolds and F. W. Jung, is of special interest to gas engineers, because it gives a comparison of results of tests made on three different scales of carbonization, namely, the Bureau of Mines, American Gas Association 100 pound test retort, the two-ton experimental oven of the Canadian Department of Mines, and a commercial by-product plant. The results from the Bureau of Mines, American Gas Association standard test and the Canadian Department of Mines experimental oven were in satisfactory agreement on both coals. Both of these agreed reasonably well with the coke oven results. The 2″ shatter index of the coke was highest for the product of the commercial oven. The index was lowest in the coke from the Bureau of Mines, American Gas Association test retort. The coke from the two-ton experimental oven, which was 12″ wide, occupied an intermediate position, with respect to shatter index, between the commercial plant and the small test retort.

The comparison of results of the Bureau of Mines, American Gas Association tests with operating results on commercial plants, as given in this Technical Paper and in the previous ones of the series, is now considered sufficient to show the relation between laboratory and plant results. It may be regarded as established that:

(a) Plant yields of coke, gas and B.t.u. of gas per pound of coal fall between the test results obtained at carbonizing temperatures of 900 and 1000° C. (1652 and 1832° F.) and usually agree with the average of the 900 and 1000° result.

(b) The amount of light oil scrubbed from the gas in the test apparatus is less than that scrubbed from the gas of plants because the test condenser train throws down more of the light oil with the tar; however, the total yields from gas plus tar at 900° C. are approximately the same as the total from plants.

(c) The tar yield from the 1000° C. carbonization test shows the best agreement with plant yields.

(d) The ammonia yield from the test apparatus is low due to the decomposition induced by the iron in the retort.

(e) The coke from the test retort has a lower apparent density and a higher percentage of cells than the by-product oven coke from the same coals and the 2″ shatter index usually is lower than that obtained with coke from by-product ovens.

(f) Test with 18″ retort and tamping of charge gives a coke which closely reproduces the physical properties of by-product oven coke.

Gas Heats Louisiana's $5,000,000 State House

USHERING in a new era in Louisiana's history, its $5,000,000 State Capitol building, at Baton Rouge, is thirty-three stories high, the tallest structure in the South. Towering over the city like a huge giant, it is visible for miles around and so is the country from its lofty apex.

It is the last word in modern buildings. Four hotel-size Majestic gas ranges and a gas-fired grill and salamander will be used for cooking. Steam dishwashers, warming tables, electric refrigerators, and numerous small appliances are an important part of the modern culinary equipment.

Directly under the basement is the sub-cellar in which are located all the mechanical equipment and the heating plant. The equipment installed in the basement is used not only for heating the building, but also for furnishing steam for the kitchen and for heating water. The heating plant is equipped with four boilers; three 250-horsepower low-pressure boilers and one 50-horsepower high-pressure boiler, all four boilers being of the fire box type. Gas from a 4-in. high-pressure line is metered at 8-oz. pressure and fed to the boiler burners at 4-oz. pressure. Each of the burners is fired by two entrained combustion burners. Each of these burners fires against a vertical checkered baffle wall placed at a 60-deg. angle with the direction of the flame. This baffling arrangement diverts the flame from each burner toward the center of the furnace and serves as an excellent refractory.

The control equipment consists of Mercoid bell-ringing low-water cut-offs and boiler fuel regulators. These regulators hold the steam pressure in the 15-lb. range on the 250-horsepower boilers and in the 100-lb. range on the 50-horsepower boiler. The flue damper and primary air supply to the burners are adjusted manually. Each of the boilers is equipped with an indicating draft gauge and flue gas temperature thermometer. A CO_2 recorder is connected so as to indicate the combustion condition of each boiler in operation.

Monthly Summary of Gas Company Statistics

FOR MONTH OF SEPTEMBER, 1932

Issued November, 1932, by the Statistical Department of the American Gas Association
420 Lexington Avenue, New York, N. Y.

PAUL RYAN, Statistician

COMPARATIVE STATISTICS OF 207 MANUFACTURED GAS COMPANIES FOR THE MONTH OF SEPTEMBER, 1932

	Month of September			Nine Months Ending September 30		
	1932	1931	Per cent Increase	1932	1931	Per cent Increase
Customers						
Domestic	8,743,812	9,054,125	— 3.4			
House Heating	42,760	38,495	11.1			
Industrial and Commercial	401,948	405,386	— 0.8	*See September*		
Miscellaneous	7,265	6,939	—			
Total	9,195,785	9,504,945	— 3.3			
Gas Sales (MCF)						
Domestic	20,585,105	21,051,986	— 2.2	190,703,024	195,934,918	— 2.7
House Heating	194,619	174,384	11.6	13,913,574	13,530,655	2.8
Industrial and Commercial	5,257,861	6,159,091	—14.6	54,507,429	62,188,555	—12.4
Miscellaneous	156,115	163,365	—	1,527,417	1,582,037	—
Total	26,193,700	27,548,826	— 4.9	260,651,444	273,236,165	— 4.6
Revenue (Dollars)						
Domestic	24,220,210	25,012,307	— 3.2	221,882,808	229,007,538	— 3.1
House Heating	167,751	163,387	2.7	9,987,600	10,524,948	— 5.1
Industrial and Commercial	4,614,899	5,406,506	—14.6	47,373,122	54,057,548	—12.4
Miscellaneous	120,571	129,603	—	1,070,805	1,226,437	—
Total	29,123,431	30,711,803	— 5.2	280,314,335	294,816,471	— 4.9
Gas Produced and Purchased (MCF)						
Gas Produced						
(a) Water Gas	11,725,432	13,474,476	—13.0	118,093,105	135,075,649	—12.6
(b) Retort Coal Gas	2,186,417	2,618,441	—16.5	21,294,430	24,739,013	—13.9
(c) Oil Gas	455,600	518,146	—12.1	5,651,306	5,545,115	1.9
(d) Coke Oven Gas	3,887,785	4,437,088	—12.4	35,112,403	39,983,735	—12.2
(e) Reformed Oil Still Gas	380,564	368,270	3.3	3,484,081	3,250,737	7.2
(f) Total Gas Produced	18,635,798	21,416,421	—13.0	183,635,325	208,594,249	—12.0
Gas Purchased						
(a) Coke Oven Gas	6,942,062	8,033,540	—13.8	67,232,821	79,942,636	—15.9
(b) Oil Still and Natural Gas	3,621,422	368,383	—	32,738,270	3,405,585	—
(c) Total Gas Purchased	10,563,484	8,421,923	25.4	99,971,091	83,348,221	19.9
Total Gas Produced and Purchased	29,199,282	29,838,344	— 2.1	283,606,416	291,942,470	— 2.9

COMPARATIVE STATISTICS OF 206 NATURAL GAS COMPANIES FOR THE MONTH OF SEPTEMBER, 1932

Customers						
Domestic (Including House Heating)	4,441,968	4,533,157	— 2.0			
Commercial	215,039	210,858	2.0			
Industrial	15,840	16,054	— 1.3	*See September*		
Main Line Industrial	5,334	5,198	2.6			
Miscellaneous	1,545	1,742	—			
Total	4,679,726	4,767,009	— 1.8			
Gas Sales (MCF)						
Domestic (Including House Heating)	11,850,463	12,230,523	— 3.1	200,411,909	215,631,271	— 7.1
Commercial	2,108,642	1,882,722	12.0	32,675,620	33,008,362	— 1.0
Industrial	15,196,898	15,621,645	— 2.7	131,528,718	147,690,313	—10.9
Main Line Industrial	11,619,729	15,912,073	—27.0	103,550,684	129,520,240	—20.1
Miscellaneous	284,509	567,488	—	4,666,759	5,275,743	—
Total	41,060,241	46,214,451	—11.2	472,833,690	531,125,929	—11.0
Revenue (Dollars)						
Domestic (Including House Heating)	9,519,861	9,748,857	— 2.3	140,353,714	149,410,951	— 6.1
Commercial	1,093,861	1,039,879	5.2	15,731,164	16,330,039	— 3.7
Industrial	2,911,271	3,422,652	—14.9	27,686,734	34,450,633	—19.6
Main Line Industrial	1,348,034	1,959,772	—31.2	12,432,608	16,756,244	—25.8
Miscellaneous	52,301	64,344	—	757,233	747,213	—
Total	14,925,328	16,235,504	— 8.1	196,961,453	217,695,080	— 9.5

Gas Utility Revenues Down 6 Per Cent in September

REVENUES of manufactured and natural gas utilities totalled $44,048,759 in September, a decline of 6% from the figure of $46,947,307 reported for September 1931, according to data received by the Statistical Department of the American Gas Association from companies representing more than 90% of the public utility distribution of manufactured and natural gas.

As of September 30, the customers of the reporting companies aggregated 13,875,511, as compared with 14,271,954 on the corresponding date of the preceding year, indicating a loss of nearly 400,000 customers during the twelve month period.

Revenues of the manufactured gas companies aggregated $29,123,431 for the month, a drop of 5.2% from a year ago. The natural gas utilities reported revenues of $14,925,328, which were about 8.1% under the figures for September 1931.

Sales of manufactured gas reported for September totalled 26,193,700,000 cu.ft., a decline of 5%, while natural gas utility sales for the month were 41,060,241,000 cu.ft., a decline of 11.2%.

This decline in sales volume appeared to characterize practically all sections of the country, although not to the same extent. In New England, September sales were 5% under a year ago, while in the Middle Atlantic states the decline amounted to 3.5%. The most marked curtailment in manufactured gas sales occurred in the East North Central states, comprising Illinois, Indiana, Michigan, Ohio and Wisconsin. Total sales for September were down more than 6% from a year ago, the result in large part of a drop of some 18% in sales to industrial-commercial users.

Consolidated Gas Company Honors War Dead

THE 500-foot tower of the Consolidated Gas Company building in New York, was dedicated at noon on Armistice Day, November 11, to the memory of the employees and officers of the Company and its affiliated companies who served the United States and its Allies during the World War.

The climax of the ceremonies was reached with the unveiling of a special tablet, to be placed in the main corridor of the building at the base of the tower. General James G. Harbord, Floyd L. Carlisle, chairman of the board of the company, and Geo. B. Cortelyou, president, spoke briefly. City officials, architects, and representatives of public utility companies and of civic associations were in the audience.

The inscription on the memorial tablet reads as follows:

"The Memorial Tower above this Tablet commemorates the faith and fidelity of the employees and officers of the Consolidated Gas Company of New York and Affiliated Companies who served the United States of America and its Allies in the World War. Of the three thousand and fifty-two in the uniformed forces, these seventy-four made the supreme sacrifice." The names of those who died are listed in alphabetical order.

General Harbord commended the motive of the Company in honoring its war heroes by dedicating to them its Tower of Light. Mr. Carlisle stated that it was significant that the Company, which is engaged in rendering services vital to the machine age, should pause for the more serious things of life as represented by the dedication.

Mr. Cortelyou called upon W. Cullen Morris, vice-president and chief engineer, to unveil the tablet. Mr. Cortelyou paid tribute to the war services of the Company's employees, and spoke also of those who served in this country. He referred to the contributions of the Company in "War Gas" research work and other activities in which the electric and gas companies cooperated with the government in 1917 and 1918.

Reginald S. Doull

REGINALD S. DOULL, special representative of the utilization department of the Consolidated Gas Company of New York, died at Bloomfield, N. J., November 11. He was in his seventy-second year.

Mr. Doull was connected with the utilization department of the company for nearly twenty years. During that time, he was the company's representative on work relating to various city codes, and his expert knowledge of these matters won for him the respect and admiration of the municipal and other officials. He not only assisted in checking and reviewing all codes which affected the gas business, but he was also frequently called in for consultation on such codes.

Mr. Doull was an active member of the American Gas Association, and was known particularly for his work on the "Gas Safety Code" and for his services as A. G. A. Representative to the National Fire Prevention Association.

Michigan Gas Association

(Continued from page 511)

was named and he remained in office until 1918 when the writer was chosen.

In 1909, 1910, 1912 and 1922, the annual meetings were held on board of lake steamers, and these boat trips are still vividly remembered. The 1922 boat trip was the last separate annual convention of the gas men of Michigan, as since then the meetings have been held jointly with those of the Michigan Electric Light Association, but each Association preserves its own identity.

Since 1925, the meetings have been held at the Grand Hotel, Mackinac Island, which location has proven exceedingly popular, not only to the Michigan utility men, but also to many guests from adjoining states.

Highest Pressure Steam Plant Uses Gas

(Continued from page 497)

water and gases flowing in opposite directions, the counter flow principle so frequently used in heat interchange units.

The steam reheat superheater, built to withstand a working pressure of 1450 lbs., is located above the boiler and the steam header is made from a solid steel plate machined out to provide space for the high-pressure steam entering the tubes and the condensate leaving the tubes. The heating surface includes 600 tubes with a total surface of 2060 sq.ft.

When the steam generating unit is fired by natural gas the efficiency including the reheat will vary from 81 per cent to more than 83 per cent, depending upon the rating. When oil fired, the efficiency will vary from 83 per cent to more than 85 per cent, depending upon the rating. When using gas, however, this difference is more than made up in the extended life of the furnace refractories. These figures are based upon a maximum dry gas loss of 6.6 per cent and a constant unaccounted for loss of 3 per cent, the balance being loss due to moisture formed by combustion of the gas or oil.

The Brooklyn Union Honors President Jourdan

(Continued from page 495)

"Employees affected by shorter week of employment will not be solicited for cash for relief purposes. Their contribution is work.

"Employees not affected by the shorter week will contribute cash as their participation in general relief."

In addition to the service emblems other presentations were as follows:

Thomas N. McCarter Medals for life saving by the prone pressure method of resuscitation were presented by Assistant Vice-President F. Christopher Weber to the following men:

William F. Hannigan, Henry Herbst, Christopher J. Keenan, Stephen R. McDermott, Raymond T. Smith, Dennis J. Tuohy, Paul A. Whalen.

The Brooklyn Union Gas Company Meritorious Emblems were presented by Assistant Vice-President B. G. Neilson to:

Joseph H. Brideson, Peter Greco, Thomas J. Kenny, Albert O. Wanglund.

The Brooklyn Union Gas Company Special Awards, which were presented by Assistant Vice-President B. G. Neilson were received by Hugh H. Cuthrell, Roy B. Hampson, Robert D. Hedges, Joseph L. Llewellyn, William J. Newman, Wilfred H. Weber.

Harold F. Coleman, president of The Brooklyn Union Gas Club, awarded the baseball and bowling trophies to the victorious teams in the Company. The President's Trophy for baseball was awarded to the Customers' Service Division team and the President's Trophy for bowling to the Flatbush Branch team.

C. C. Atwood, Assistant Chief Engineer, made the introductory remarks.

Frederick M. Roesch, social vice-president of The Brooklyn Union Gas Club, was in charge of the arrangements for the dinner.

Service Emblems in the respective year groups were awarded as follows:

60 Years' Service

Byrne, Edward J.

55 Years' Service

*Averill, Frank H.

50 Years' Service

*Egan, Michael F.
Jourdan, James H.
*Lyons, James P.

45 Years' Service

*Gibbons, John
Hardy, John
Leonard, John J.
*Wendlandt, Herman
*Witbeck, Geo. H.
Young, Charles A.

40 Years' Service

Bartel, Emil J.
Breslin, Maurice P.
Burgess, Wm. J.
Carey, James F.
*Conde, Angelo
Dembke, Herman E.
Downey, Lawrence J.
*Dunne, Thos. J., Sr.
Hamburger, Pierce
*McCarren, D. J.
McEvoy, Patrick J.
*Noteware, H. E.
O'Brien, Daniel
Searing, Edw. H.
*Smith, Geo. S.
Wogan, Frederick R.

35 Years' Service

*Allen, James T.
Brown, M. Elton
*Gallagher, J. W.
Geary, William J.
*Gregory, Wm. H.
Gulotta, Giuseppe
*Harrison, Robert F.
*Hay, John P.
Kerwin, Jeremiah F.
Wilkinson, Frank E.
*Lawless, Thos. W.
*McGee, John J.
*Polito, Frank
*Reardon, Michael
Reilly, Patrick
Scripture, Walter L.
Thompson, Geo. H.
Walsh, James F.
*Watkins, Percy W.

30 Years' Service

Benson, Fred S.
Bisegno, F.
Chiello, Giovanni
Connolly, Wm. J.
Deacon, Thomas A.
Gallagher, Andrew
*Gioiosi, Joseph
*Harkins, Myles
*Harlow, F. A.
Hartfield, Frank T.
Jackson, Charles A.
*Keyes, Peter
*Kincaide, Michael
Kramer, John W.
Martin, Charles
Murphy, Edward J.
*Murtagh, Thomas
Papen, Bernhard J.
*Petraglio, Stefano
*Petty, William S.
Riley, Bernard F.
Schofield, James A.
Shannon, Bernard J.
*Smith, Patrick
Stiles, Linford S.
Troell, Lewis S.
Voorhees, D. S.

25 Years' Service

Amter, Andrew E.
Anger, William C.
Bennett, Wm. A.
Brown, Walter S.
Caffrey, John J.
Carbone, Fioravante
Casey, Joseph
Cassidy, William
*Cowley, William F.
Cox, Bernard
D'Angelo, Allesandro
Desmond, John J.
Dunbar, George J.
Engel, Frederick J.
Favalla, Pasquale
*Feeley, Peter P.
Fisher, John L.
Fitzpatrick, Thomas
Fitzpatrick, William
*Fox, John
Gorman, Patrick T.
Gregory, John J.
Griffin, James F.
Hansen, Herbert
Herr, Charles H.
Herzog, William F.
Hoehne, Robert
Hoffman, John A.
*Howard, James J.
Howley, James F.
Keenan, C. J.
Kenny, Thomas
King, John J.
Knolle, John
Kreuzburg, C. N.
Macey, John F.
Madden, Patrick
Martin, Thomas S.
Matthews, James J.
Matz, Henry M.
Mehling, George
Morris, Thomas J.
Mulledy, Bernard
Murray, Frank J.
Murtagh, James
*McAllen, James
McCarthy, Harry
Neal, Charles E.
Needham, Robert R.
Neuberger, F. G.
O'Shea, Jeremiah, Sr.
Parrot, August
Pecorello, Louis
Pfeiffer, Matthew J.
Polhemus, W. L.
*Purrone, Antonio
Quinn, Henry A.
Rosenwasser, H. G.
*Sekulski, Andrew
Sewall, Frank H.
*Stabile, Carmine
Stephens, Frank G.
Toner, Joseph H.
Tracy, Thomas M.
Tuohy, Dennis J.
Waldron, John H.
Wanmaker, Geo. H.
Weber, Walter
Wuest, Frank J.
Young, David J.
Zehro, Michael

* Retired.

On Advice of Physician

OW! SAY, POUR SOME ON THE OTHER SIDE. WILL YA? MY LEFT FOOT'S DONE!
KA-CHEW-GOSH. KA CHEW!
IM CALLING THE DOCTOR!
IT'S EASIER TO PREVENT THESE COLDS THAN IT IS TO CURE THEM
!?!
EVEN TEMPERATURES AND THE RIGHT AMOUNT OF HUMIDITY IN THE AIR WILL HELP YOU AVOID CATCHING COLDS.
BUT DOC—
I CAN'T AFFORD TO SPEND ALL WINTER ON A CARIBBEAN CRUISE!
YOU WON'T HAVE TO, GAS HEATING WILL SOLVE YOUR PROBLEM

—The Cincinnati (Ohio) Post

Associations Affiliated with A. G. A.

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Empire State Gas and Electric Association
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Sec.—J. R. Blackhall, 617 Public Service Bldg., Springfield, Ill.

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Sec.-Tr.—P. A. McLeod, New Castle, Ind.

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Sec.-Tr.—A. G. Schroeder, Grand Rapids Gas Light Co., Grand Rapids, Mich.

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Asst. Sec.—Jesse Blythe, 103 West High St., Jefferson City, Mo.

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Chairman, Industrial Div.—C. S. Hilton, The Pawtucket Gas Co., Pawtucket, R. I.
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Mang. Dir.—Clifford Johnstone, 447 Sutter St., San Francisco, Calif.

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Fifteenth Annual Convention of the American Gas Association
Chicago, Ill. - - - Week of September 25, 1933

Personnel Service

SERVICES OFFERED

House heating graduate engineer: Ten years' practical experience application of gas to house heating manufactured and natural gas covering direct sales to customers, salesmen training and supervision, organization of department for sales, installation and service; development of rates and merchandising. Also industrial, distribution, construction and property management experience. **629.**

Twenty years' broad experience **sales,** business, management, general engineering, with particular experience in handling and metering air, gases, and mixtures. Graduate mechanical engineer, licensed professional engineer; married; excellent personal qualities and character. **630.**

Gas engineer (34) married. Early technical training chemical engineering, nine years' chemical research gas analyses, fuels, gasoline adsorption. Five years active in gas engineering in charge plant construction, inventory and appraisal valuations specializing in depreciation studies and public service commission contacts. **633.**

Aggressive **appliance salesman** seeking a substantial connection with either a manufacturer or utility company. Eighteen years' experience selling gas appliances of every description, throughout eastern and southern territories. Have no preference as to location. Ability to sell, supervise and organize. (40) Married. **634.**

Practical **gas man** with wide distribution experience. Thoroughly familiar all main and service work, high and low pressure; boilers, refrigerators, etc. and complaint work. Shop foreman. **635.**

Manager (graduate engineer) of natural gas company is especially qualified to make market surveys, set up rates and build industrial load. Also experienced in organizing and operating a group of small companies. Has several years' experience along manufactured gas lines. **636.**

Business builder: wide administration and sales experience, a successful record of accomplishments in the range industry and valuable contacts among important gas range outlets are offered progressive manufacturer. For full information ask Personnel Service for my confidential classification record or write **637.**

Improving plant results is specialty of **engineer** having broad international experience with two of the largest gas engineering and construction companies. Thoroughly familiar with design and operation of most modern plant equipment; broad experience in development of apparatus and a wide acquaintance with the gas fraternity. **638.**

Long experience **selling** to utilities and exceptional ability in making friends quickly and holding them. Can sell to the manufacturing or commercial side; many years' actual management of gas property. Now is the time to start promotional work and establish new accounts. Please give me the opportunity to figure with you. **641.**

Young (single) aggressive combination company **salesman** with unusual record of filling established merchandise quotas for both gas and electric equipment; held first place in competitive sales program of organization. Thoroughly familiar with all domestic and commercial appliances; available for utility company or equipment manufacturer. Specialty is contacts and closing. **642.**

Local or district **manager,** or commercial manager; engineering graduate (39); have been superintendent of manufacture and distribution; two years on staff of state public utility commission; five years commercial manager of company with 140,000 meters where appliance sales were almost quadrupled. **644.**

Executive-engineer (40) N. Y. license, member A. S. M. E., available for investigations, reports, rate studies, valuation, promotional work, organization of construction and operating forces or general executive assignment. Many years successful utility experience both with independent and holding companies. **648.**

SERVICES OFFERED

Gas engineer, twenty-five years' experience all branches construction operation, rates, management, appraisals and reports, including combination gas and electric plants with responsibilities in both departments. Half of time central office holding company engineer supervising group of plants. Familiar with heavy oil water gas operation and natural gas distribution. **649.**

Gas engineer, technical education, twenty years' practical experience in both manufactured and natural gas. Intimate knowledge of all details of production, operation, distribution and valuation. Successful public service commission and Federal Court experience in rate cases. **656.**

A qualified executive is desirous of permanently locating as **manager** or **superintendent.** Technical and practical experience is assured in operation of plants, high and low pressure distribution, rate structure, public relations and office methods. Efficient without red tape. Married. **657.**

House Heating engineer (24) graduate of a gas engineering school (B. S.), with advanced work in gas engineering and heating and ventilating. Has two years' experience in house heating. Desires employment in either house heating or industrial sales work. **658.**

Industrial gas **sales** engineer experienced in both manufactured and natural gas desires location in an Eastern property within 200 to 300 miles of New York City. Fully experienced in house heating and domestic appliances as well as in the design of industrial furnaces. Married. Now employed. **659.**

Merchandise manager, straight percentage basis with authority to extend similar policy all possible items of present sales department, fixed expense including branch leaseholds. Experienced in branch, distributor and dealer distribution, budgetary control conversion gas burners, domestic oil burners, mechanical refrigerators and automotive vehicles throughout U. S. **660.**

Draftsman. Eleven years' public utility experience, handled records, maps and appraisals and worked as construction foreman. **661.**

Gas engineering graduate, specialized training in utility operation, several years' experience with leading mid-west gas company, desires employment in production, distribution or sales (23) married, will go anywhere. **662.**

Advertising manager or **writer,** experienced in all phases of gas and electric company advertising and publicity, with an excellent record of effective, profitable advertising for practically every appliance or service. Competent to assume full charge of an advertising department. **663.**

Graduate **engineer** experienced in design and operation by-product coke plants, gas plants and distribution systems in U. S. and Canada. Capable taking charge or can fit into present organization. Experience should make this man valuable where training, strong personality and honesty count. **664.**

Manager—experienced in manufactured and natural gas and electricity with splendid new business record. Full particulars will be furnished on request. **665.**

Sales engineer—qualified for sales and management of house heating department in all its branches of service. Experience also covers industrial steam boiler application and large volume water heating. General and technical knowledge. Married. **666.**

Sales executive. Man of unusual experience in sales management and merchandising in various lines; forceful convincing personality; knows intimately most successful methods of sales promotion and personnel direction, market analysis sources and planning including budget sales production; experienced advertising supervision; special knowledge appliances; married, American, university trained, 47 years. **667.**

Gas engineer (27) engineering graduate, married, desires position with large gas company as assistant to plant or distribution superintendent, or can take complete charge of operation of small gas company. Excellent record of results obtained and have had extensive experience with practically all phases of gas operation. **668.**

SERVICES OFFERED

Safety engineer. Graduate E. E., age 39, married. Nine years' experience. Four years servicing industrial risks of large casualty insurance company, five supervising safety program of gas and electric utilities. Capable of handling accident prevention work, including personnel and insurance details, for utility or insurance company. Available in 60 days. **669.**

Sales advertising—Fifteen years in agency and public utility field. Experienced in appliance merchandising and dealer cooperative advertising for combination properties. Coordination of advertising policy, employee education and customer contact services. **670.**

Technical Graduate, single, class of 1931; specialized in gas and chemical engineering. Have had experience in industrial concerns and in testing commercial heating equipment at a university experiment station. Willing to go anywhere and interested in any future possibilities. In the East at the present. **671.**

POSITIONS OPEN

Gas **appliance salesmen** wanted. Those having utility sales experience preferred. We have an unusually attractive proposition for men who can show a clean, business producing record. We virtually put you in business for yourself. Line now established and in active demand, assuring an income from the outset. Stocks are carried and sales financed. No investment required. Straight commission. No drawing account. Contracts now being made. Desirable openings available in practically every state. **0249.**

An unusual business **opportunity:** Nationally known manufacturer of gas fired heating and air conditioning equipment is interested in making connections for Ohio and Western Pennsylvania territories. Established organizations dealing in mechanical lines or individuals having necessary qualifications will be considered. Large profits possible in an industry with a most attractive future. **0251.**

Advertising man for a public utility to prepare complete newspaper advertisements. Ability to do creative advertising and copy work is essential and previous public utility experience is desirable. Give full details of personal and professional qualifications also submitting samples of recent newspaper copy. **0253.**

GOOD MEN AVAILABLE

The number of good men briefly advertising their qualifications is limited by space requirements. We have many others and all are supported by confidential classification records showing details of education, experience and personal qualifications.

Further, a "Positions Open" advertisement will reach numerous other qualified individuals throughout the industry; inserted without charge, and keyed to maintain complete anonymity you may tap a supply that cannot fail to furnish the right man.

We can, and do, regularly submit lists of men capable of meeting the diversified requirements of both gas company and manufacturer members; we function also as a clearing house, all negotiations being quite confidential, *but there are still more men than jobs.*

Permit us to help by placing an advertisement or by furnishing names and qualifications of men for all branches and assist in stepping up the morale and bringing renewed hope to many an unfortunate victim of economic conditions.

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